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**National Highway
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CALSPAN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 96-02

VEHICLE #1 - 1995 ISUZU TROOPER (AIR BAG EQUIPPED)

VEHICLE #2 - 1986 BMW 325 ES

LOCATION - STATE OF NEW JERSEY

CRASH DATE - JANUARY, 1996

Contract No. DTNH22-94-D-07058

Prepared for:

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points are coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

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| 16. Abstract <p>A two vehicle head-on crash involving the front of an air bag equipped 1995 Isuzu Trooper compact utility (Vehicle #1) equipped with dual front air bags and the front of a 1986 BMW 325 ES (Vehicle #2) occurred January, 1996 in the afternoon hours on a two lane, undivided, -1.7 percent slope, dry, urban/commercial, straight asphalt roadway near a four leg intersection. The posted speed limit was 64 km/h (40 mph). The ambient conditions were cloudy and dry with no adverse weather conditions.</p> <p>Vehicle #1 was southbound on a U.S. route when she attempted to make a left turn at a four leg intersection across the path of Vehicle #2 which was traveling northbound. The frontal plane of Vehicle #1 struck the frontal plane of Vehicle #2 at a SMASH computed impact speed of 9 km/h (5 mph) for Vehicle #1 and 60 km/h (38 mph) for Vehicle #2. This resulted in a SMASH computed delta V of 25 km/h (15 mph) for Vehicle #1 and a 41 km/h (25 mph) delta V for Vehicle #2. The Collision Deformation Classification for Vehicle #1 was 01-FDEW-2 and 11-FDEW-2 for Vehicle #2. The air bag supplemental restraint system (SRS) appeared to function properly.</p> <p>Vehicle #1, driven by a 52 year old female, was enroute to a shoe store with three other passengers. The right front occupant was a four month old male child secured in a rearward-facing child safety. As the Supplemental Restraint System (SRS) initiated the deployment sequence, the passenger side air bag module cover and air bag contacted the rear upper surface of the child safety seat. The child's head contacted the back of the safety seat as the result of this force. He sustained a subdural hematoma, an epidural hematoma, subarachnoid hemorrhage, basilar skull fracture, and bruise and swelling of the head. The safety seat was propelled rearward and contacted the right upper B-pillar by the safety seat.</p> <p>A rescue squad from a nearby substation and an advanced life support specialist from a nearby hospital provided medical attention and traveled to the hospital in the ambulance where a team of physicians was waiting. While enroute, the infant went into cardiac arrest. Upon arrival, the infant was resuscitated and a craniotomy was performed to remove a large subdural and epidural hematoma. Three and one half hours after the crash, the infant was transported via helicopter to a nearby hospital specializing in pediatric care. A brain death evaluation test was performed and the infant was pronounced deceased the following day.</p> | | | |
| 17. Key Words Supplemental Restraint System (SRS) Passenger side air bag, air bag module cover Century 3500 STE Prestige convertible child safety seat Rearward-facing child safety seat Impact speeds of 9 km/h (5 mph) and 60 km/h (38 mph) AIS-5 (critical) level injury Two vehicle crash | | 18. Distribution Statement General Public | |
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CALSPAN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 96-02

VEHICLE #1 - 1995 ISUZU TROOPER (AIR BAG EQUIPPED)

VEHICLE #2 - 1986 BMW 325 ES

LOCATION - STATE OF NEW JERSEY

This investigation was initiated in response to a notification received by the National Highway Traffic Safety Administration (NHTSA) that a dual air bag equipped vehicle was involved in a head-on crash. It was reported that a right front occupant (a four month old male) seated in a rear facing infant safety seat had sustained fatal injuries in the crash. The notification was sent to the NHTSA by the treating trauma center one day after the crash. A Calspan Crash Reconstructionist was on-site the same day NHTSA was notified. The air bag equipped vehicle was towed to a vehicle repair facility where it was locked inside a building under police order pending this investigation. The building was located approximately 91 m (300') from the crash scene. With the exception of personal belongings and the child safety seat which was removed from the vehicle by the police for safe keeping, the interior and exterior evidence appeared to be undisturbed (verified by on-scene police photographs).

SUMMARY

A two vehicle head-on crash involving the front of an air bag equipped 1995 Isuzu Trooper compact utility (Vehicle #1) equipped with dual front air bags and the front of a 1986 BMW 325 ES (Vehicle #2) occurred January, 1996 in the afternoon hours on a two lane, undivided, dry, level, rural, straight asphalt roadway near a four leg intersection. The posted speed limit was 64 km/h (40 mph). The ambient conditions were cloudy and dry with no adverse weather conditions.

Vehicle #1, driven by a 52 year old female, was enroute to a shoe store with three other passengers. Passengers included: a four month old male child seated in a rearward-facing child safety seat located in the right front seat; a forty-three year old female in the left rear seat; and an eighteen month old male child in the right rear seat. The right rear passenger was not using a child safety seat at the time of the crash.

Vehicle #1 was southbound on a U.S. route when she attempted to make a left turn at a four leg intersection across the path of Vehicle #2 which was traveling northbound. The frontal plane of Vehicle #1 struck the frontal plane of Vehicle #2 at a SMASH computed impact speed of 9 km/h (5 mph). Vehicle #2's travel speed was computed at 60 km/h (38 mph).

Vehicle #1 sustained a maximum crush of 38.6 cm (15.1") to the front bumper which yielded a SMASH computed delta V of 25 km/h (15 mph). The Collision Deformation Classification was 01-FDEW-2. The air bag Supplemental Restraint System (SRS) appeared to function properly.

Maximum crush to Vehicle #2 measured 44.5 cm (17.5") at the left front bumper corner. This resulted in a SMASH computed delta V of 41 km/h (25 mph). The CDC was 11-FDEW-2.

Vehicle #1 was pushed reward an estimated distanced of 2.6 m ((8.5') from the point of impact (POI) and rotated in a counterclockwise direction. It came to the final rest position (FRP) angled across the northbound travel lane. The vehicle then traveled in reverse and climbed over the west roadway curb face and stopped with the right rear tire positioned on the sidewalk and the left front tire on the roadway surface.

Vehicle #2 traveled an estimated longitudinal distance of 3.1 m (10.1') and a lateral distance of 1.9 m (6.2') from the POI to the FRP. It rotated in a clockwise direction and came to the FRP partially on the east shoulder.

The driver of Vehicle #1 indicated she saw Vehicle #2 approach and alerted the left rear passenger to hold onto the right rear passenger in anticipation of the collision. It was not clear if the driver attempted to avoid the crash. There were no pre-impact skid marks discernable in the on-scene police photographs (refer to photographs #1, #2 on page A-1). The vehicle was not equipped with an anti-lock braking system (ABS).

The right front occupant of Vehicle #1 who measure 61.0 cm (24.0") and weighed 9.1 kg (20 lbs.) was secured in a rearward-facing child safety seat. The back of the child safety seat was in close proximity of the passenger side mid mount air bag module cover at the time of the crash. On-scene police photographs revealed that the continuous loop lap and shoulder restraint belt was still latched upon their arrival, while the safety seat was not secured by the restraint belt. The safety seat was laying on its rear surface on the right front seat cushion with the foot area of the seat pointing upward (refer to photographs #65-#67 on pages A-33, A-34).

From the contact evidence on the rear surface of the child safety seat and the passenger side air bag module cover, the seat was either secured with the lap portion of the restraint over the "armrests" (i.e., side structure) of the safety seat or the belt was not in use (refer to a detailed discussion under the subheader "Child Safety Seat").

As the SRS initiated the deployment sequence, the passenger side air bag module cover rotated in an upward direction in response to the expanding air bag. It contacted the rear upper surface of the safety seat which initiated a rearward rotational movement of the safety seat. This rotation and reward movement was accentuated by the simultaneous contact sequence of the air bag. The safety seat was propelled rearward and contacted the right upper B-pillar (refer to photographs #79-#82 on pages A-40, A-41 for a demonstration of this contact sequence).

Contact on the upper B-pillar resulted in the fragmentation of the plastic covering in an area measuring 17.8 cm (7.0") located 7.0 cm (2.75") below the right roof rail. Green fabric fibers consistent with the color of the safety seat covering was noted along the leading edge of the fracture site. The safety seat fabric along the left top surface on the in-board surface of the left head wing sustained a "L" shaped tear measuring 2.2 cm (0.9") vertically and 0.6 cm (0.25") laterally. This was consistent with the contact pattern on the upper B-pillar (refer to photograph #39 on page A-20).

The driver of Vehicle #1 was not using the available three point manual lap and shoulder restraint belt at the time of the crash. This was apparent from the knee contact evidence observed on the knee bolster and the heavy mascara transfers documented on the driver side air bag surface. (refer to photographs #47, #48 on page A-24). She reportedly sustained an injury of the left knee and was treated and released from an area hospital.

From contact evidence noted on the rear surface of the driver's seat, it appeared the left rear occupant of Vehicle #1 was not using the manual three point lap and shoulder belt at the time of the crash. She was listed on the police accident report as not injured.

The right rear occupant in Vehicle #1 was not using a child safety seat. Contact evidence on the rear surface of the right front seat back rest suggested the child was not restrained by the available three point manual lap and shoulder restraint belt. He was listed on the police accident report as not injured.

The driver of Vehicle #2 was not restrained by the available three point manual lap and shoulder belt. She sustained a laceration of the forehead as the result of contact with the windshield.

The right front occupant in Vehicle #1 was removed from the vehicle following the crash by the driver. She reportedly removed the baby from the safety seat and was shaking the baby in an attempt to revive him. She ran to a nearby restaurant and requested an employee to call for rescue.

A rescue squad substation located diagonally across the intersection from the restaurant responded within a minute of the crash. An advanced life support specialist arrived from a nearby hospital and assisted in providing first aid to the infant. The ambulance transported the infant to the hospital where a team of physicians was waiting. While enroute, the infant went into cardiac arrest. The infant was resuscitated and a craniotomy was performed to remove a large subdural and epidural hematoma.

Three and one half hours after the crash, the infant was transported via helicopter to a nearby hospital which specialized in pediatric care. A brain death evaluation test was performed with negative results. The infant was pronounced deceased the following day. The family agreed with the hospital's request to participate in the organ donor program.

Diagram illustrating a road intersection and surrounding area, showing vehicle positions and road features.

Key Features and Labels:

- Flashing Red Beacon:** Located on the horizontal road.
- Stop Sign:** Located at the intersection.
- Gas Station:** Located on the left side of the vertical road.
- Driveway:** Located on the left side of the vertical road.
- Vehicle Positions:** Marked with labels V1, V2, and V3.
- Final Rest Position Upon Arrival by the Police Department:** Indicated by an arrow pointing to a vehicle position.
- Curb 15.2 cm (6.0") High:** Located on the right side of the vertical road.
- Sidewalk:** Located on the right side of the vertical road.
- Restaurant Parking Lot:** Located on the right side of the vertical road.
- Parking Lot Entrance/Exit:** Located on the right side of the vertical road.
- Asphalt Roadway:** The main road.
- Asphalt Shoulder:** Located on both sides of the road.
- Slope:** -1.7% Slope.
- Scale:** 1 cm = 2.5 m. Scale bar shows 0, 2.5, and 5.0 units.

| | |
|--|---|
| CRASH DATA | |
| Location: | Two lane undivided U. S. route |
| City/Township: | State of New Jersey |
| Area/Type: | Urban/Businesses |
| Investigating Police Agency: | Local Police Department |
| Accident Type: | Two vehicle head-on crash |
| Air Bag Vehicle Driver Injury Severity: | Police reported complaint of injury |
| Air Bag Vehicle Right Front Passenger Injury Severity: | AIS-5 (Critical Injury) |
| AMBIENCE | |
| Viewing Conditions: | Daylight |
| Weather: | Clear/cloudy |
| Road Surface: | Dry |
| HIGHWAY | |
| Type: | State route |
| Number Of Lanes: | 2 |
| Roadway Width: | 6.7 m (22.0') |
| Surface: | Asphalt |
| Median: | None |
| Shoulders: | West shoulder, 3.1 m (10.2') asphalt East shoulder, 2.6 m (8.5') asphalt |
| Vertical Alignment: | -1.7 percent southbound |
| Horizontal Alignment: | Straight |
| Estimated Coefficient Of Friction: | 0.68 |
| Traffic Density: | Light to moderate |

| TRAFFIC CONTROLS | |
|-------------------------------|---|
| Signals: | None for north/south travel lanes, red flashing beacon for intersecting east/west travel lanes |
| Signs: | None for north/south travel lanes, stop signs for intersecting east/west traffic |
| Markings: | Full barrier double yellow centerline, solid white road edge lines |
| Speed Limit: | 64 km/h (40 mph) |
| VEHICLE #1 DESCRIPTION | |
| Description: | 1995 Isuzu Trooper. |
| V.I.N.: | JACDJ58V4S7 (Serial# omitted). |
| Color: | Red. |
| Odometer: | 8,467 km (5,261 miles). |
| Engine: | 3.2 L. |
| Transmission: | Automatic four wheel drive. |
| Steering: | Power. |
| Brakes: | Power assisted front wheel disc and rear drum brakes. |
| Padding: | Soft edge steering wheel rim, sunvisors, seats, roof liner, door panels and arm rests, upper and mid instrument panel, driver side air bag module cover, and passenger side air bag module cover. |
| Active Restraints: | 3-point lap and shoulder belts in the four out-board seating positions, lap belt in the second row center seat position. |
| Passive Restraints: | Driver side and passenger side Supplemental Restraint System (SRS) which deployed upon impact with the front of Vehicle #2. |
| Defects: | None. |
| Tow Status: | Towed from the scene due to damage. |

| VEHICLE #2 DESCRIPTION | |
|-------------------------------|---|
| Description: | 1986 BMW 325 ES |
| V.I.N.: | WBAAB5405G9 (Serial# omitted). |
| Color: | White. |
| Odometer: | 178,357 km (110,829 miles). |
| Engine: | 2.693 L. |
| Transmission: | 5-speed manual. |
| Steering: | Power. |
| Brakes: | Front disc and rear drum brakes. |
| Padding: | Soft edge steering wheel rim, upper and mid instrument panel, sunvisors, seats, roof liner, door panels and arm rests. |
| Active Restraints: | 3-point lap and shoulder belts in the four outboard seat positions and a 2-point lap belt in the center rear seat position. |
| Passive Restraints: | None. |
| Defects: | None. |
| Tow Status: | Towed from the scene due to damage. |

VEHICLE DAMAGE

Vehicle #1

Exterior:

The frontal plane of the 1995 Isuzu Trooper struck the frontal plane of the 1986 BMW 325ES. Direct contact was noted across an area measuring 147.3 cm (58.0") which was located 69.9 cm (26.75") left of the vehicle centerline. Contact damage involved the front bumper, grille area, headlights, marker lights, directional signal lamps, the hood, and both fenders. The front bumper sustained a maximum rearward displacement of 38.6 cm (15.1") which was located 36.8 cm (14.5") right of the vehicle centerline. The maximum crush area resulted from contact with the left front bumper corner of Vehicle #2. The combined direct and induced damage length measured 161.3 cm (63.5") (refer to photographs #24 - #29 on pages A-12 through A-15). Crush values obtained along the bumper level are listed below:

| | |
|----------------------------------|-----------------------------------|
| C ₁ = 25.4 cm (1.2") | C ₄ = 33.7 cm (13.25") |
| C ₂ = 22.2 cm (8.75") | C ₅ = 32.4 cm (12.75") |
| C ₃ = 27.9 cm (11.0") | C ₆ = 25.4 cm (10.25") |

CDC: 01-FDEW-2

Repair Cost: Not available

Vehicle #1

Interior:

Damage to the interior was associated with occupant contacts. The passenger side air bag module cover exhibited a contact pattern which correlated with the upper rear surface of the child safety seat. The perimeter of the contact pattern measured 10.2 cm (4.0") vertically from the cover's horizontal tear seam along the right side of the pattern, 5.1 cm (2.0") vertically along the left side, and 29.9 cm (11.8") laterally. There were vertically oriented striated scuff marks and embedded plastic tabs from the rear surface of the child safety seat in the air bag module cover.

The vinyl covering over the right upper B-pillar was cracked and fragment from contact with the child safety seat. Green fabric fibers located on the leading edge of the fracture site were consistent with the color of the child safety seat fabric covering.

The in-board side of the right door grab handle exhibited horizontal striated scuff marks which were attributed to contact with the child safety seat. However, there were no discernable relating scuff marks on the safety seat.

A portion of the right instrument panel below the passenger side air bag module cover was separated at point located 20.3 cm (8.0") right of the vehicle centerline. This damage was the result of the expanding passenger side air bag during the SRS inflation sequence.

A linear scrape measuring 14.0 cm (5.5") was noted on the glove compartment door. It was located 22.9 cm (9.0") right of the centerline and resulted from contact by the child safety seat as the seat was rotated and propelled rearward by the passenger side air bag.

Two areas of passenger side air bag generant residue were noted on the right upper door surface and the right side of the center instrument panel accessory panel. The residue was gray in color and correlated with the location of the two passenger side air bag vent ports.

A small hair fiber was observed in the weather stripping adjacent to the right roof rail. It was located 49.5 cm (19.5") rear of the windshield header.

A 32.4 cm (12.75") linear gray color transfer was noted on the surface of the roof fabric. The transfer began 21.6 cm (8.5") right of the centerline and stopped 34.3 cm (13.5") right of the centerline. This was attributed to contact by the child safety seat, even though there was no correlated damage noted on the safety seat.

The left instrument panel exhibited two scuff marks on the surface of the knee bolster. These measured 5.1 cm (2.0") and 7.6 cm (3.0") in width and were located 45.7 cm (18.0") and 16.5 cm (6.5") left of the vehicle centerline, respectively. The scuff marks were attributed to contact by the driver's knees.

There was a linear scuff mark on the driver's door just below the electric window control module. It measured 3.0 cm (1.5") in length and was attributed to contact by the driver's left thigh.

The driver side air bag surface exhibited red and tan transfers in the center mid-upper portion of the air bag. These were consistent with massacre transfers which were attributed to contact by the driver's face.

The upper rear surface of the left front seat back support exhibited abrasions which were attribute to contact by the left rear occupant. These measured 1.3 cm (0.5") and 3.2 cm (1.25") in length. The rear surface of the right front seat back support also exhibited a light abrasion of the seat fabric and a transfer of a 'fluffy' type fabric on the top surface of the accessory pocket. This was attributed to contact by the right rear occupant.

The driver's seat was positioned 10.4 cm (4.1") rear of the full forward position with a seat back support angle of 15°. The distance between the seat back support and the driver side air bag module cover measured 50.1 cm (20.0") at a height of 40.0 cm (15.75") above the seat cushion.

The tilt steering wheel was in the center adjusted position at an angle of 64°. The steering wheel rim was not deformed.

Vehicle #2

Exterior:

The frontal plane of the 1986 BMW 325 ES was struck by the front of Vehicle #1. The length of direct along the front bumper measured 118.8 cm (44.0") which began 43.2 cm (17.0") right of the vehicle centerline. The maximum crush of 38.1 cm (15.0") was located at the left front bumper corner (refer to photographs #105-#111 on pages A-53 through A-56).

Measured crush values are listed below:

| | |
|---------------------------------|-------------------------------|
| $C_1 = 38.1 \text{ cm (15.0")}$ | $C_4 = 7.4 \text{ cm (2.9")}$ |
| $C_2 = 19.0 \text{ cm (7.5")}$ | $C_5 = 3.2 \text{ cm (1.3")}$ |
| $C_3 = 13.0 \text{ cm (5.1")}$ | $C_6 = 0$ |

Components damaged in the crash included the front bumper, the left headlight set, the hood, the lower valence panel, the grille area, the left fender, and the windshield.

CDC: 11-FDEW-2

Repair Cost: Not available

Vehicle #2:

Interior

The interior of Vehicle #2 exhibited damage from contact by the driver's forehead. The windshield had a typical spider web contact pattern which was located 45.7 cm (18.0") left of the vehicle centerline. A 12.7 cm (5.0") slit in the glazing continued below this area. The driver sustained a laceration of the forehead which was attributed to this contact.

The lower left instrument panel was deformed forward as the result of contact by the driver's left knee and lower leg. This was located 39.4 cm (15.5") left of the centerline and 43.2 cm (17.0") above the floor pan.

AIR BAG SYSTEM

Vehicle #1

The 1995 Isuzu Trooper was equipped with a driver side and passenger side air bag Supplemental Restraint System (SRS) that deployed as designed during the crash.

Warning labels were present on both sunvisors, as well as, the right restraint belt (refer to photographs #45, #53, and #54 on pages A-23, A-27). Pertinent information on the use of a child safety seat printed on these labels is replicated below:

Sunvisor label "• DO NOT INSTALL REARWARD-FACING CHILD SEATS IN ANY FRONT PASSENGER SEAT POSITION"

Restraint belt "CHILD RESTRAINT
PULL BELT ALL THE WAY OUT TO LOCK BELT FOR
USE WITH CHILD SEAT.

A CHILD IN A REAR-FACING CHILD RESTRAINT CAN BE BADLY INJURED BY THE AIR BAG IF IT INFLATES. NEVER PUT A CHILD IN A REAR-FACING RESTRAINT IN THE FRONT SEAT OF THIS VEHICLE. SECURE A REAR-FACING CHILD RESTRAINT IN THE REAR SEAT."

The sunvisor labels were printed with black letters on a light gray background. The restraint belt label contained blue letters on a white background.

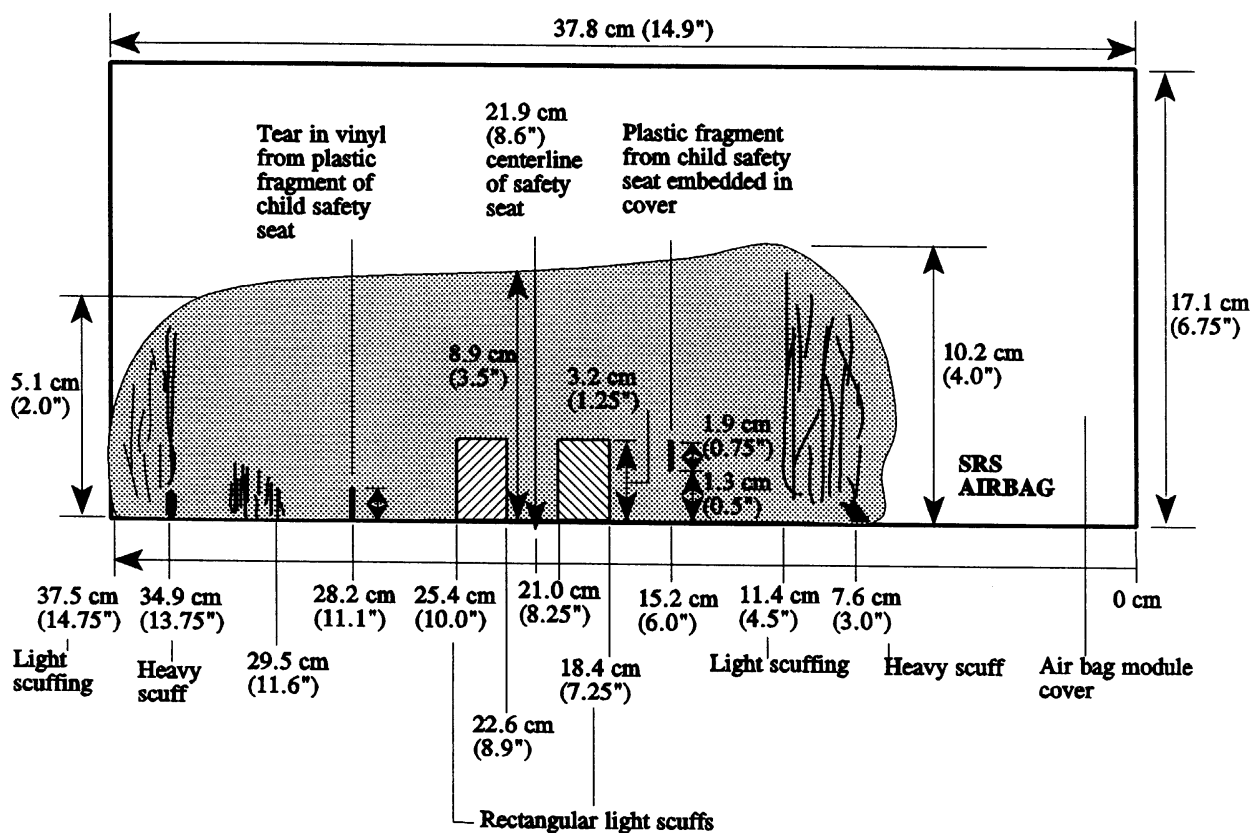
Passenger Side Air Bag

The passenger side air bag was a mid mount design which incorporated a single air bag module cover that was hinged along the forward seam line (i.e., windshield side). The cover was flush mounted to blend with the surrounding surface of the instrument panel. The air bag module cover measured 37.8 cm (14.9") in lateral width and 17.1 cm (6.75") in length (i.e., front to back). The left side of the module cover was located 21.6 cm (8.5") right of the vehicle centerline. The cover was constructed of a rigid material with a padded vinyl surface. The cover thickness measured 12.7 mm (0.5"). The designed tear lines separated normally along the three sides.

The side profile of the module cover was an arch design which measured 17.1 cm (6.75") along the vertical/horizontal surface and 15.6 cm (6.1") along a cord between the leading edge and the hinged edge of the cover. At a point 3.2 cm (1.25") from the leading edge, the cover changed from a vertically oriented surface to a horizontal surface.

The passenger side air bag module cover sustained damage resulting from contact with the upper rear surface of the child safety seat. The perimeter of the contact pattern resembled the outline of the child safety seat which measured 10.2 cm (4.0") vertically from the cover's horizontal tear seam along the right side of the pattern, 5.1 cm (2.0") vertically along the left side, and 29.9 cm (11.8") laterally (refer to photographs #55-#58 on pages A-28, A-29). There were vertically oriented striated scuff marks and embedded plastic tabs from the rear surface of the child safety seat in the air bag module cover (refer to the following illustration for detailed measurements).

Contact Evidence On Surface Of Passenger Side Air Bag Cover

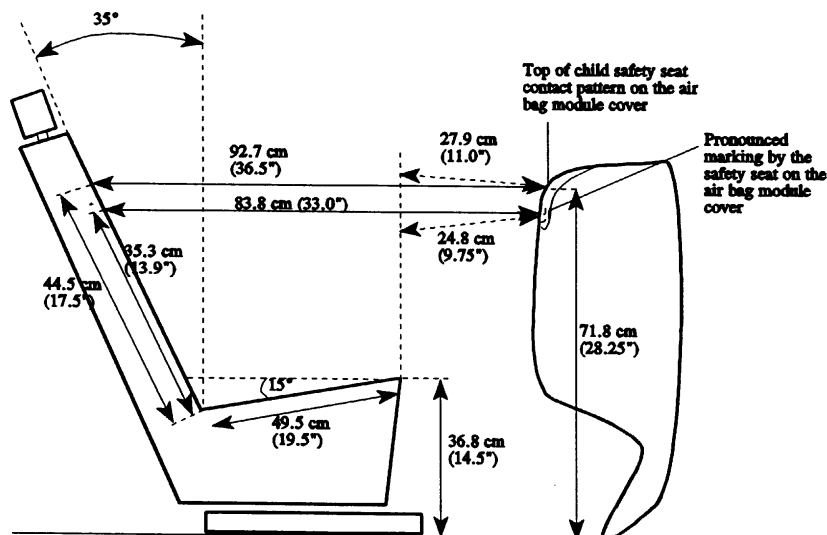


Imprint of the upper rear surface of the child safety seat is noted by the outline shown in the above sketch. There were two punctures of the air bag module cover which correlated with the two plastic tabs located 4.4 cm (1.75") below the top of the child safety seat and 6.4 cm (2.5") from the centerline of the seat. The right edge of the safety seat was located 34.9 cm (13.75") from the right edge of the cover.

The passenger side air bag was an untethered design. It had two 3.8 cm (1.5") diameter vent ports located on both lateral surfaces of the air bag. There was no observable damage noted to the air bag fabric.

The position of the right front seat at the time of inspection appeared to be in the same position as it was at the time of the crash. The seat was in the full rear adjusted position with a measured seat back support angle of 35°. This placed the seat back support a horizontal distance of 83.8 cm (33.0") rearward from the passenger side air bag module cover at a height of 35.3 cm (13.9") above the junction of the seat cushion with the seat back support. The leading edge of the seat cushion measured a horizontal distance of 24.8 cm (9.75") from the bottom tear seam line of the air bag module cover and 27.9 cm (11.0") from the vertical/horizontal transition point of the module cover. The seat track adjustment range measured 18.0 cm (7.1"). The following illustration provides distance measurement data between the air bag module cover and the seat.

Right Front Passenger Seat Longitudinal Location With Respect To The Air Bag Module Cover



The seat was in the full rear adjusted position at the time of the inspection which appeared consistent with the position noted in on-scene police photographs. The seat track had an adjustment range of 18.0 cm (7.1"). When the seat was adjusted on the seat track to the specifications of the FV/MSS 208 test, the seat back rest measured a horizontal distance of 64.8 cm (25.5") to the air bag module cover and 82.6 cm (32.5") to the rear seat cushion.

208 Test For Passenger Side Air Bag Manual Cutoff Device

The right front seat was adjusted to the test specifications developed for this vehicle. The seat position was adjusted into the 8th latch detent forward from the rearmost detent "1". The seatback angle was set at 22 degrees rearward of vertical which was equivalent to the seatback

adjusted into the 3rd latch detent rearward from the first latch detent"1"(refer to photographs #103, #104 on page A-52). The distance between the rear surface of the front seat back and the forward surface of the rear seat back measured longitudinally in a horizontal line tangent to the highest point of the rear seat bottom was 826 mm (32.5"). This exceeded the minimum distance of 720 mm (28.35") in which the vehicle would have qualified for a passenger side air bag manual cutoff device. With the seat set at this position, the longitudinal distance between the leading edge of the right front seat cushion measured horizontally at the highest point of the cushion to a vertical projection of the passenger air bag module cover measured 648 mm (25.5").

Driver Side Air Bag

The driver side air bag module cover opened in the typical "H" pattern during the deployment sequence along the designated tear seam lines. The vertical length of the upper module flap measured 7.6 cm (3.0") and the lower flap measured 5.7 cm (2.25"). The lateral width of the flaps measured 14.3 cm (5.6") along the common horizontal tear seam line. The flap thickness measured 3.2 mm (0.125"). The module flaps did not exhibit any contact evidence (refer to photographs #41, #46 on pages A-21, A-23). .

The air bag was designed with two tethers in the 12 o'clock and 6 o'clock positions. There were with two 5.1 cm (2.0") diameter vent ports located on the instrument panel side of the air bag in the one and eleven o'clock positions. The air bag measured 67.3 cm (26.5") in diameter and the circumferential edge was stitched with a finished seam. The air bag identification number is listed as follows:

PE5229700-03
TBZ4279B0465

A 10.8 cm (4.25") tan (peach color) mascara transfer mark was noted on the surface of the air bag. It was located in the center of the air bag and extended 15.2 cm (6.0") vertically (refer to photographs #47, #48 on page A-24). This mark was the result of contact by the driver's facial area. With this transfer were two parallel red lipstick transfers which measured 8.3 cm (3.5") in length. The pattern of the marks indicated the steering was rotated approximately 90° counterclockwise at impact.

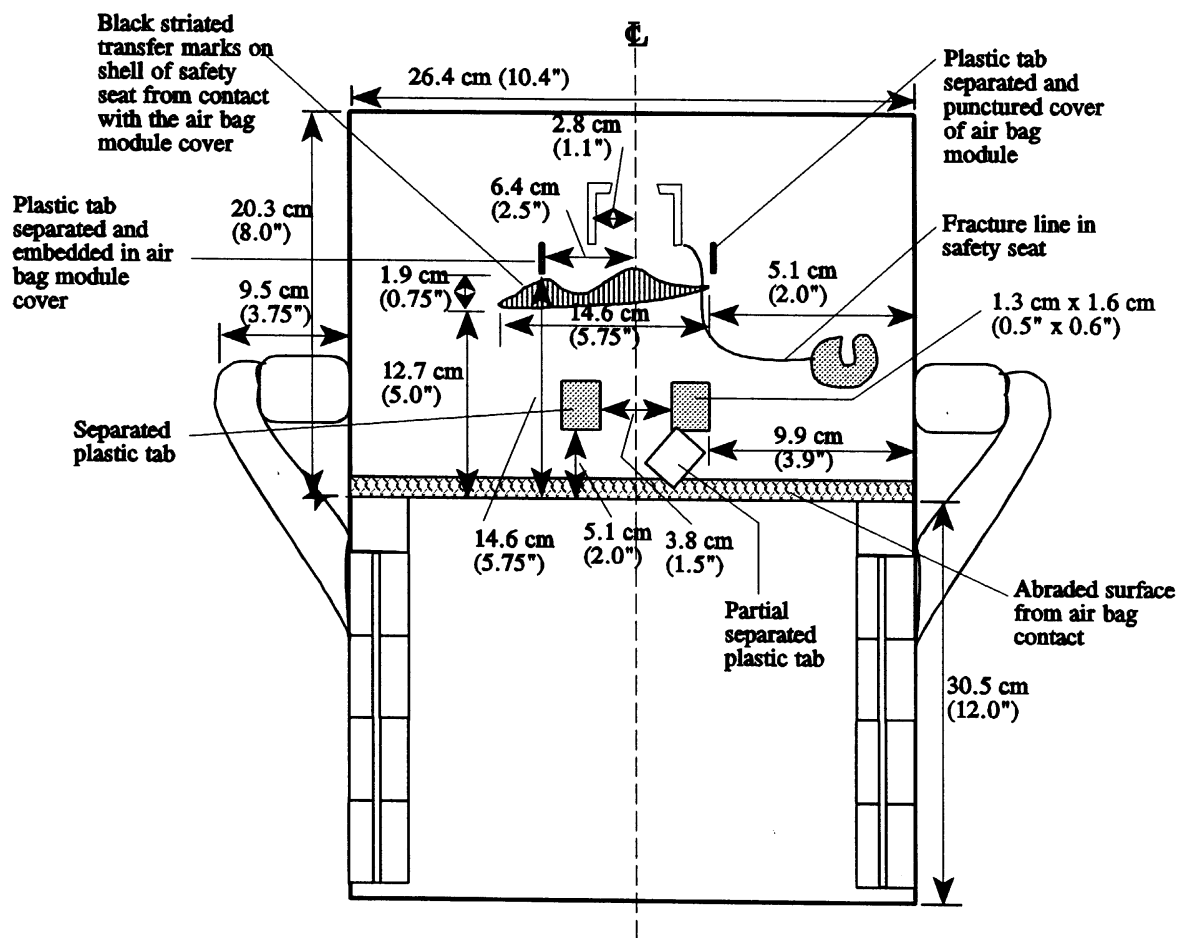
CHILD SAFETY SEAT

The right front occupant in Vehicle #1 was sitting in a rearward-facing Century 3500 STE Prestige convertible child safety seat. The model number was 4375SFG 092595.

Contact evidence on the upper rear surface of the safety seat indicated the seat was very close to if not against the passenger air bag module cover at the time of the crash. Two plastic tabs molded into the rear surface of the plastic shell were broken off and embedded in the cover of the air bag module. This evidence in conjunction with black striated transfers from the module cover and a patterned abraded area from the air bag contact clearly aligned the position of the seat

with respect to the passenger side SRS. The following illustration notes the location of these tabs and highlights the location of the air bag module cover transfer.

Contact Evidence On The Rear Surface of The Child Safety Seat



The driver of Vehicle #1, the grandmother of the right front occupant, indicated her daughter always kept the child safety seat in vehicle. It was assumed the child was secured in the child safety seat with the harness and safety tray latched into place. However, it is not clear if the safety seat was secured with the lap portion of the lap and shoulder belt.

On-scene photographs (refer to photographs #65-#67 on pages A-33, A-34) show the restraint belt latched and the safety seat laying on the seat cushion. It was reasoned that if the lap belt was used, then it had to be placed over the side surfaces of the safety seat on top of the green seat covering. Photographs #71 and #72 on page A-36 illustrate this technique and show the relative distance between the safety seat and the air bag module cover. In placing the seat in this position, care was taken to restrict the belt from rewinding into the retractor. Placement of the seat in this position appeared to place the seat at a distance that was inconsistent with the damage pattern noted on the rear surface of the seat and on the module cover (i.e., too far away). Additionally, there was no evidence of lap belt contact on the seat covering (e.g. fabric abrasion) or seat covering fibers embedded in the lap belt.

The safety seat was then positioned closer to the air bag module cover as shown in photographs #77, #78 on page A-39. This placement appeared to align the contact points on the child safety seat and the air bag module cover. However, the lap belt could not be placed over the sides of the seat without spooling out more belt.

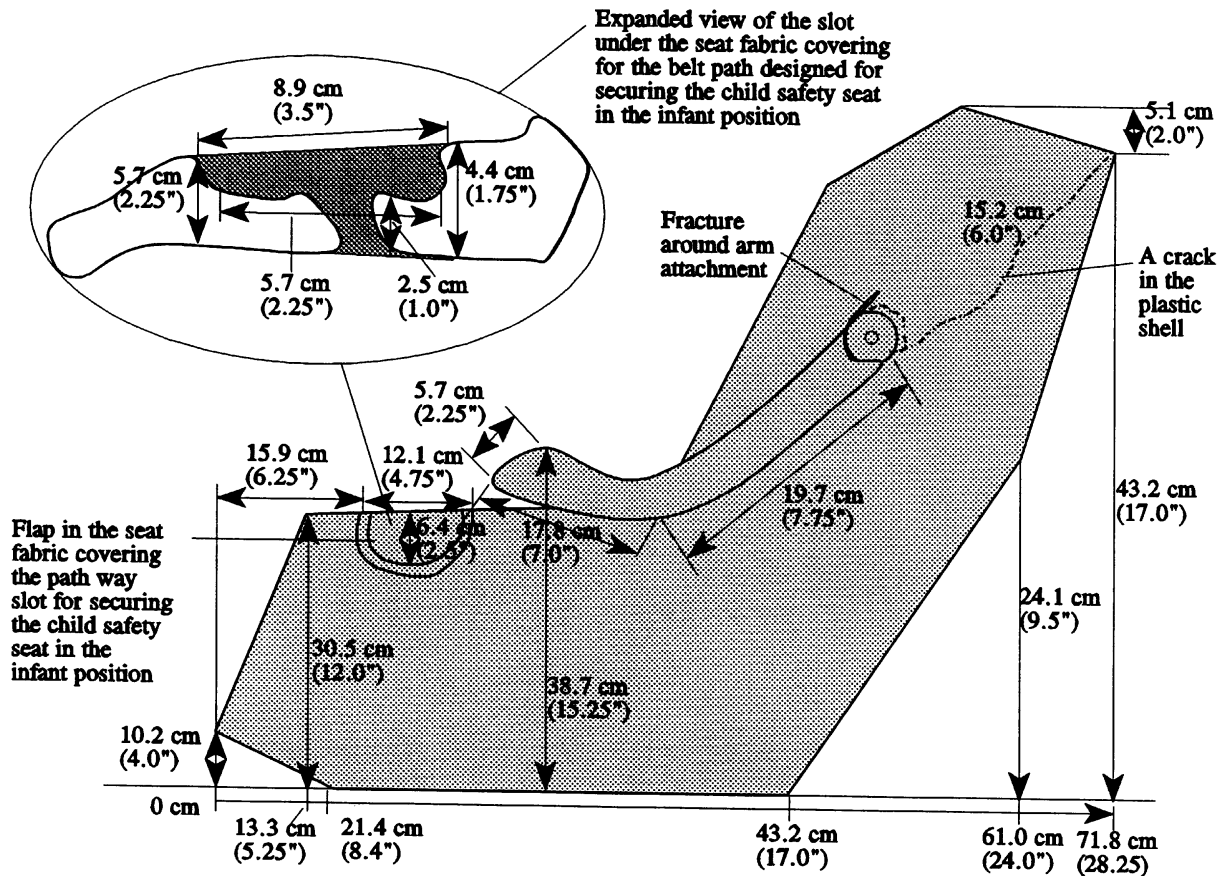
The driver may have placed the child safety seat up against the air bag module cover to provide more stability to the seat during transport. It was possible the lap belt was placed across the top of the side structures and the belt retracted slightly after the crash. However, there was no evidence on the belt or seat covering to support this type of usage.

The fabric covering over the child safety seat was designed with flap pockets on the side surfaces which cover the rearward-facing latch brackets for the lap belt pathway. The flaps were observed in on-scene photographs to be tucked behind the seat covering. In order to correctly fasten the seat with the lap belt, these flaps must be pulled away from the seat to expose the latch brackets (refer to photographs #84-#86 on pages A-42, A-43). This ruled out the possibility that the child safety seat was secured properly using the designed belt pathway for the rearward-facing mode. The illustration on the following page provides detailed measurements of this area.

A warning label printed in black ink on an orange background was attached to the left lower side of the child safety seat (refer to photographs #86, #87 on pages A-43, A-44). The text of the label reads:

Δ WARNING!
WHEN THIS RESTRAINT IS USED
REAR-FACING, DO NOT PLACE IT IN
THE FRONT SEAT OF A VEHICLE THAT
HAS A PASSENGER SIDE AIR BAG.
YOUR INFANT'S HEAD AND NECK MAY
BE SERIOUSLY INJURED WHEN AIR
BAG INFLATES.

Profile of The Century 3500 STE Prestige



The plastic shell of the child safety seat was fractured in two places. The largest fracture site involved the left side surface of the seat in the area around the safety tray pivot arm. This fracture extended 15.2 cm (6.0") from the pivot arm to the top of the seat and may have resulted from contact with the right upper B-pillar. The second fracture site was located on the upper rear surface of the seat located between a manufactured opening in the seat (top right) and the instruction manual holding bracket. This was the result of contact by the air bag module cover and air bag during the deployment cycle (refer to photographs #89-#92 on pages A-45, A-46, A-47).

An "L" shape tear in seat cover which measured 2.2 cm (0.9") in vertically and 0.6 cm (0.25") laterally was located 50.8 cm (20.0") above the seat cushion and on the in-board side of the left side head wing (refer to photographs #97, #98 on page A-49). This damage occurred as

the resulted of the child safety seat impacting the right upper B-pillar. Correlating green fabric fibers attributed to this tear were noted on the leading edge of the fracture vinyl covering on the upper B-pillar.

VEHICLE VELOCITY ESTIMATES

| | Vehicle #1 | Vehicle #2 |
|-----------------------|--------------------------------|--|
| Travel Speed: | Stopped (driver's statement) | 48-56 km/h (30-35 mph) (driver's statement) |
| Impact Speed: | 9 km/h (5 mph) | 60 km/h (38 mph) |
| Total Delta V: | 25 km/h (15 mph) | 41 km/h (25 mph) |
| Longitudinal Delta V: | -24 km/h (-15 mph) | -39 km/h (-24 mph) |
| Lateral Delta V: | - 6 km/h | 11 km/h |
| Energy Absorption: | 106,756 joules (78,729 ft.lb.) | 28,281 joules (20,856 ft.lb.) |

The impact speed and velocity changes were computed using the damage and trajectory algorithms of the SMASH program. Impact speeds generated reflect approximate speed ranges. The final rest positions (FRP) for both vehicles were estimated from witness statements, towing personnel, police estimates, and on-scene police photographs. Vehicle #1 proceeded in reverse direction from the FRP immediately following the crash. Vehicle #2 was towed from the scene prior to documentation of its FRP by the police department. It was estimated Vehicle #1 was pushed rearward 2.6 m (8.5') from the POI. Vehicle #2 traveled an estimated longitudinal distance of 3.1 m (10.1') and a lateral distance of 1.9 m (6.2') from POI to FRP.

COLLISION SEQUENCE

Pre-Crash:

The driver of Vehicle #1 was enroute to a shoe store heading south on the two lane undivided U.S. route with a posted speed limit of 40 mph (64 km/h) when she was about to miss the left turn at a four leg intersection. According to the driver, she had planned to take this intersecting roadway enroute to the store.

It is not clear, however, whether the driver observed roadway construction on the U.S. route located approximately 0.8 km (0.5 mile) south of this intersection. The police indicated the intersecting roadway was frequently used as an alternate route around the construction zone.

The driver turned right at the four leg intersection, traveled a short distance, turned right into a restaurant parking lot, traveled north through the parking lot, exited the north parking lot

driveway, and re-entered the U.S. route traveling south. The location of the parking lot driveway exit was approximately 38 m (125') north of the POI.

The driver proceeded south and attempted to make a left turn at the four leg intersection. She indicated that she was traveling at a slow speed and stopped before the intersection in order to determine if this was the desired intersection.

Scene evidence, collision damage patterns on both vehicles, and the SMASH speed reconstruction program indicated Vehicle #1 was traveling at 9 km/h (5 mph) at impact and had crossed over into the on-coming travel lane. The location where the left turn was initiated placed Vehicle #1 approximately 7.6 m (25.0') south of the intersection boundary.

Upon entering the on-coming travel lane, the driver of Vehicle #1 noticed the approach of Vehicle #2. She reportedly issued a verbal warning to the left rear occupant to restrain the baby in the right rear seat in preparation for the impending crash. The driver claimed she was unable to attempt any avoidance maneuvers. Police investigation and on-scene police photographs indicated there were no pre-impact skid marks from Vehicle #1.

Vehicle #2 was traveling northbound on the roadway at a driver estimated speed of 48-56 km/h (30-35 mph) prior to the crash and was continuing straight through the intersection. The driver had left her place of employment approximately 56 minutes prior to the crash. She had stopped at the gas station and bank and was enroute to her residence.

She indicated that as she was halfway through the intersection when Vehicle #1 turned into her path. The driver of Vehicle #2 claimed there was insufficient time to apply the brakes, but she may have attempted to steer to the right.

The right front occupant in Vehicle #1 was riding in a rearward-facing child safety seat prior to the crash. The rear surface of the safety seat was placed in close proximity to the passenger air bag module cover. It was assumed the lap portion of the three point restraint belt was placed over both side structures of the seat in the vicinity of the infant seat retaining belt pathway brackets. This assumption was based upon the on-scene police photographs and investigation by the police that the restraint latch plate was still engaged in the seat belt buckle. Further, it was assumed the child was secured in the seat with the available restraint harness and safety tray. According to the driver, she removed the child from the safety seat after the crash.

Crash:

Both vehicles collided at a SMASH computed impact speeds of 9 km/h (5 mph) for Vehicle #1 and 60 km/h (38 mph) for Vehicle #2. Vehicle #1 was pushed rearward an estimated distance of 2.6 m (8.5') from the POI to the FRP. Vehicle #2 traveled an estimated longitudinal distance of 3.1 m (10.1') and a lateral distance of 1.9 m (6.2') from the POI to the FRP.

The crash force was sufficient to initiate the SRS in Vehicle #1. As the passenger side bag expanded, the air bag module cover rotated upward and contacted the rear top surface of the

module cover. The expanding air bag simultaneously contacted the rear surface of the child seat. This combination propelled the seat rearward in a rotational motion (i.e., head over heels).

The child safety seat struck the right upper B-pillar with the top left surface resulting in fragmentation of the B-pillar plastic covering. The safety seat came to rest in the front right seat.

The driver of Vehicle #1 was positioned within the deployment zone of the driver side air bag at the time of the crash. The driver's face contacted the air bag as it expanded which was apparent from the mascara transfer noted on the surface of the air bag. She moved forward in response to the impact force and contacted both knees on the knee bolster. These contact points indicated the driver was not wearing the available three point manual lap and shoulder restraint belt.

The driver indicated both rear seat occupants were wearing the available three point manual lap and shoulder belts. However, abrasions on both front seat back rests indicated both occupants moved forward and struck the seat back supports.

The driver of Vehicle #2 was not restrained by the available three point manual lap and shoulder belt. She moved forward and to the left in response to the impact force and struck the windshield with her forehead. The windshield exhibited a typical spider web contact pattern with an adjacent 12.7 cm (5.0") long slit.

Post Crash:

Final Rest - Vehicle #1 came to final rest in the northbound travel lane in a counterclockwise rotation. The vehicle proceeded in reverse and traveled back across the south travel lane and adjacent asphalt shoulder. The right rear tire climbed over the barrier curb and the vehicle came to the FRP with the right rear tire against the curb face.

Vehicle #2 came to final rest on the east shoulder in a clockwise rotational angle. The vehicle was removed by a tow truck prior to the documentation of the FRP by the police department.

Driver/Occupant Activities - The driver of Vehicle #1 exited her vehicle through the driver's door and ran to the passenger side of the vehicle. She allegedly removed the child safety seat from the vehicle and placed it on the ground. She knew the child was injured as the child's eyes did not appear to respond appropriately. She then removed the child from the seat and put the seat back in the front seat. The driver then carried the child to a nearby restaurant and asked one of the employees to call for help. Rescue personnel responded and were on-site within 1-2 minutes of the crash. The driver was holding the child's lower body in her left hand and the child's head in her right hand. The child was taken into the ambulance and transported to a local hospital.

The driver of Vehicle #2 indicated she was unable to open the driver's door. A bystander came to her aid and helped her from the vehicle. She was laying on the ground when the police arrived. She was administered first aid by an EMT and transported to a local hospital.

Police Activities - The local police department responded to the crash. They arrived on-scene within one minute after notification of the crash.

Rescue Activities - The crash occurred approximated 45 m (150') from rescue squad substation. On duty rescue personnel were first alerted to the situation by the sound of the crash. Two utility employees who were working nearby heard the crash and ran to the squad station. They knocked on the door and alerted the EMTs of the crash. One EMT ran to the scene while the other EMT drove the ambulance and parked it in the restaurant parking lot adjacent to Vehicle #1. A second ambulance was two miles away and also responded.

A call was placed to the local hospital four minutes after the crash to dispatch an advanced life support specialist. He responded one minute later and arrived on-scene three minutes after the hospital received the call where he found the child in the ambulance. The hospital was located approximately 1.2 km (0.75 miles) from the crash site.

The specialist concentrated his efforts on stabilizing the child's head and neck by holding it in alignment and applying lateral support with his hands and forearms during transportation to the hospital. He was joined by an EMT who had to not only had to contend with monitoring the child's vital signs, but also had to deal with an emotional relative (i.e., driver of Vehicle #1).

A police officer was designated to drive the ambulance as the both EMTs were occupied with injured parties. Enroute to the hospital, the child went into cardiac arrest. The rescue team performed CPR and administered oxygen. Upon arrival at the hospital, a team of physicians were waiting and were able to resuscitate the infant.

The child underwent a craniotomy to remove a large subdural and epidural hematoma. The child was transported via helicopter three and one half hours after the crash to a nearby hospital which specialized in pediatric care. The child underwent a cerebral blood scan flow scan which showed that there was no blood flow to the brain. The child was declared expired approximately eleven and one half hours after the crash. The family consented to participate in the organ donor program.

The medical examiner was notified and a non-invasive autopsy was performed. Reportedly, an invasive autopsy was requested by hospital physicians, but the medical examiner's office declined the request.

Scene Clearance - The towing company was located within 61 m (200') of the crash site. Vehicle #1 and Vehicle #2 were towed from the scene due to damage. The rapid response by the tow truck operator and lack of crash severity information allowed for the quick removal of Vehicle #2 from the scene before its final rest position was documented by the police.

Human Factors/Occupant Data

| Vehicle #1 | Driver | Right Front Occupant |
|--------------------------------|--|--|
| Age/Sex: | 52 year female | 4 month old male |
| Height: | Unknown | 61.0 cm (24.0") |
| Weight: | Unknown | 9.1 kg (20.0 lbs.) |
| Manual Restraint System Usage: | Not wearing the 3-point lap and shoulder belt system. | Fasten in a child safety seat which was incorrectly secured with the lap portion of a continuous loop lap and shoulder belt. |
| Usage Source: | Vehicle inspection | Vehicle inspection, police accident report, and on-scene photographs. |
| Eyewear: | Unknown | None |
| Jewelry: | Unknown | Unknown |
| Clothing | Unknown | A blue snow suit with a fur hood which reportedly was on the baby's head after the crash, overalls with straps.. |
| Vehicle Familiarity: | Unknown, the vehicle was owned by the driver's daughter. | |
| Route Familiarity: | Some what familiar with the area. | |
| Trip Plan: | Enroute to a shoe store. | |
| Physical State | The driver reportedly was on insulin and had taken a shot five hours before the crash. She had breakfast and an early lunch (one and one half hours prior to the crash). This was in preparation for the evening plans of going out to dinner. | |
| Type of Medical Treatment: | Transported to a local hospital, treated and released. | Treated at a local hospital and transfer to a medical facility specializing in pediatric medicine where the child expired. |

| Vehicle #1 | Occupant #3 | Occupant #4 |
|------------|----------------|-------------------|
| Age/Sex: | 43 year female | 18 month old male |
| Height: | Unknown | Unknown |
| Weight: | Unknown | Unknown |

| | | |
|--------------------------------|---|---|
| Manual Restraint System Usage: | Not wearing the 3-point lap and shoulder belt system. | Not wearing the 3-point lap and shoulder belt system (there was no child safety seat in the vehicle). |
| Usage Source: | Vehicle inspection | Vehicle inspection |

| Vehicle #2 | Driver |
|---------------------------------|---|
| Age/Sex: | 33 year female |
| Height: | Unknown |
| Weight: | Unknown |
| Passive Restraint System Usage: | Not wearing the 3-point automatic lap and shoulder belt system. |
| Usage Source: | Vehicle inspection and police accident report. |
| Eyewear: | Unknown |
| Jewelry: | Unknown |
| Cargo: | None |
| Clothing | Unknown |
| Vehicle Familiarity: | Very familiar |
| Route Familiarity: | Very familiar, resident of area. |
| Trip Plan: | Returning home from place of employment |
| Type of Medical Treatment: | Transported to a local hospital, treated and released. |

INJURY DATA**VEHICLE #1**

| INJURIES | INJURY SEVERITY (AIS-90) | SOURCE |
|---|---|---------------|
| DRIVER INJURY - 52 year old female | | |
| Police accident report indicated this driver had a complaint of pain of the left knee | Not codeable | Knee bolster |

| | | |
|---|-----------|----------------------------------|
| RIGHT FRONT OCCUPANT - 4 month old male | | |
| 1. Large subdural hematoma | 140656.59 | Passenger side air bag |
| 2. Subarachnoid hemorrhage | 140684.39 | Passenger side air bag |
| 3. Epidural hematoma | 140636.59 | Passenger side air bag |
| 4. Posterior skull fracture, basilar fracture due to raccoon eyes | 150200.38 | Passenger side air bag |
| 5. Bruise and swelling of head | 190402.12 | Passenger side air bag |
| 6. Lower left quadrant injury (LLQ) | 590099.18 | Safety tray of child safety seat |

| | |
|---|-------------|
| OCCUPANT #3 - 43 year old female | Not injured |
| OCCUPANT #4 - 18 month old male | Not injured |

VEHICLE #2

| | | |
|------------------------------------|--------------|-----------------------------|
| DRIVER - 33 year old female | | |
| 1. Laceration of the forehead | 290600.17 | Windshield |
| 2. Unknown injury of left leg | Not codeable | Lower left instrument panel |

OCCUPANT KINEMATICS

Driver of Vehicle #1 (52 year old female)

At the time of the crash, the driver's seat was adjusted in a mid to rear position [i.e., 10.4 cm (4.1") rear of full forward, 6.4 cm (2.5") forward of full rear]. The seat back rest measured 50.1 cm (20.0") to the center of the steering wheel hub from a point 40.0 cm (15.75") above the seat cushion. The seat back angle measured 19° rearward of vertical. The driver was not wearing the available three-point manual lap and shoulder belt.

Just prior to the crash, the driver claimed to have slowed and stopped her vehicle in order to determine if the intersecting roadway was the desired roadway to make a left turn. From the scene, vehicle, and interview data, it was determined Vehicle #1 was traveling at a slow rate of speed at the time of the crash [9 km/h (5 mph)]. The driver initiated a left turn approximately 7.6 m (25.0') north of the intersection boundary. This appeared to be an atypical turning maneuver where the vehicle was steered in an oblique angle across the on-coming travel lane (i.e., "cutting the corner of the intersection"). The driver claimed to have observed the approach of Vehicle #2 and reportedly issued an alert to the left rear occupant to restrain the 18 month old child in the right rear seat.

Upon impact, the driver's head was within the expansion zone of the deploying air bag as determined from the mascara transfer on the air bag surface (refer to photographs #47, #48 on page A-24). In the center of the mascara were two parallel red transfers which were consistent with the color of a lipstick transfer. The gap between the upper set and lower set of lipstick transfers indicated the air bag was not fully inflated at the time of driver contact.

The curved shape of the lipstick transfer suggested the driver's facial features had a gesture of grave concern. Orientation of the steering wheel in photographs #47, #48 on page A-24 was aligned with the wheels placed in a straight ahead position. With the steering wheel rotated 90 degrees counterclockwise, these transfers match the position of the driver's facial features (i.e., lips).

The driver moved forward and contacted the knee bolster with both knees and lower legs. This was evident from the scuff marks located on both sides of the steering column (refer to photographs #42, #43 on pages A-21, A-22).

Right Front Occupant of Vehicle #1 (4 month old male)

The right front occupant was secured in a rearward-facing child safety seat by a harness and safety tray. The safety seat was placed in close proximity of the expanding passenger air bag module cover prior to the crash. The seat was not properly secured with the available manual three point lap and shoulder restraint belt.

During the crash phase, the air bag module cover rotated upward and struck the rear surface of the child safety seat. This contact was simultaneously followed by the passenger air

bag. The child's head appeared to be facing left toward the right front door panel at the time of the crash as the injury description identified a large area of swelling on the left side of the head.

The child's head reacted in the opposite direction to the SRS deployment and contacted the safety seat back rest. The seat was propelled rearward in an upward rotational movement (i.e., head over heels). The seat appeared to have contacted the roof liner as a 32.4 cm (12.75") linear scuff mark was observed (refer to photographs #37, #38, #51 on pages A-19, A-26).

The safety seat continued rearward and contacted the right door handle grab handle (refer to photograph #40 on page A-20). This contact resulted in the redirection of the seat toward the right side of the vehicle. The top left side of the child safety seat then struck the upper B-pillar resulting in the fragmentation of the B-pillar vinyl covering (refer to photographs #79-#82 on pages A-40, A-41 for views of the safety seat placed in this contact sequence). As the result of this impact, the child moved toward the rear of the vehicle and loaded the safety tray resulting in a contusion of the abdominal area (i.e., left lower quadrant). The seat rebounded and landed on the right front seat cushion.

The driver exited the vehicle and reportedly removed the child safety seat with the child still in the seat through the right front door. She observed the child's eyes and realized the child was injured. She claimed her initial intent was not to remove the child from the safety seat fearing neck injury. However, after a short period of time, she decided to remove him and seek help.

Rear Occupants of Vehicle #1

The left rear occupant (43 year old female) was not restrained by the available three-point manual lap and torso belt. She was thrown forward and struck the driver's seat back rest with her knees and upper torso during the crash (refer to photograph #101 on page A-51). She was not injured.

The right rear occupant (18 month old male) was not restrained by the available three-point manual lap and torso belt. He moved forward and contacted his knees and upper torso on the seat back rest. He was not injured.

Driver of Vehicle #2 (33 year old female)

The driver was not wearing their three-point manual lap and torso belt at the time of the crash even though the police indicated she was using the restraint. The driver moved forward and to the left in response to the crash. Her left knee contacted the lower instrument panel adjacent to the left side of the steering column resulting in a forward displacement of the panel. She sustained an unknown injury of the left leg.

She continued forward and struck her forehead on the left side of the windshield resulting in a typical spider web contact pattern. Her head continued forward and partially penetrated the windshield glazing. This resulted in a 12.7 cm (5.0") slit which exhibited body tissue and hair fibers embedded in the glazing. She sustained a laceration of the forehead.

The driver was unable to open the driver's door and exit the vehicle. A passer-by came to her assistance and opened the driver's door. She was removed from the vehicle under her own power and was placed on the ground pending the arrival of rescue. She was transport to a local hospital where she was treated and released.

ATTACHMENT A

SELECTED PRINTS

CALSPAN CASE NO. 96-02

STATE OF NEW JERSEY

Selected Prints
Calspan Case No. 96-02
State of New Jersey



1. On-scene police photograph (looking east) showing the final rest position (FRP) of Vehicle #1 (1995 Izusu Trooper) and the point of impact (POI) with Vehicle #2 (1986 BMW 325 ES) noted by the fluid spill and debris near the right side of the photograph.



2. On-scene close-up view of the POI.



3. On-scene lookback view of Vehicle #1's FRP.



4. On-scene close-up view of impact damage to the front of Vehicle #1.



5. On-scene view of Vehicle #1's trajectory (westerly direction) and its position at the FRP.



6. On-scene of Vehicle #1's FRP.



7. On-scene view of Vehicle #1's FRP looking toward the POI.



8. On-scene view of Vehicle #1's FRP looking in an easterly direction.



9. View of Vehicle #1's trajectory while traveling east in a parking lot prior to the crash.



10. View of Vehicle #1's travel path as the driver was exiting the driveway of the parking lot 38 m (125') from the POI.



11. Look back view of Vehicle #1's travel path as it was exiting the driveway 38 m (125') prior to the POI.



12. View of Vehicle #1's trajectory 38 m (125') prior to the POI.



13. View of Vehicle #1's trajectory 30 m (100') prior to the POI.



14. View of Vehicle #1's trajectory 15 m (50') prior to the POI.



15. View of Vehicle #1's trajectory 7.6 m (25.0') from the POI.



16. View of Vehicle #1's trajectory at the POI.



17. Lookback view of Vehicle #1's trajectory from the POI.



18. View toward Vehicle #1's final red position.



19. View of the location of the front tires of Vehicle #1 at FRP.



20. Lookback view of Vehicle #1 at FRP.



21. Trajectory of Vehicle #2, 45 m (150') prior to the POI.



22. Trajectory of Vehicle #2, 30 m (100') prior to the POI.



23. Trajectory of Vehicle #2, 15 m (50') prior to the POI.



24. Frontal view of the 1995 Isuzu Trooper(Vehicle #1) showing the overall contact plane.



25, 26. Closer views of the left and right frontal plane.

27. Lateral view of the frontal plane from left to right illustrating the extent of rearward deformation.



28. Lateral view of the frontal plane from right to left illustrating the extent of rearward deformation.



29. Left front corner view.



30. Perpendicular view of the left front fender and bumper.



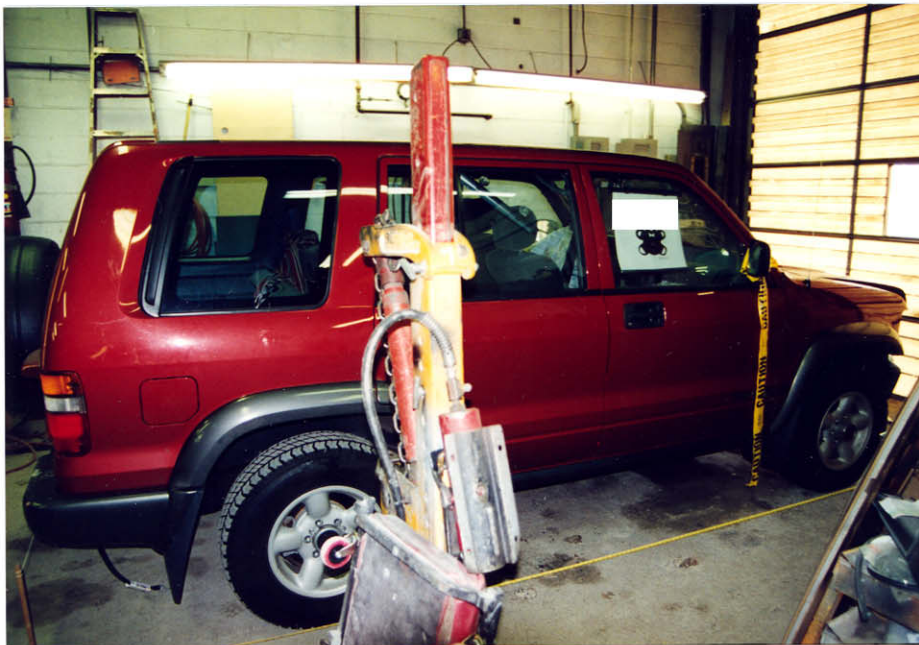
31. View of the left side plane.



32. View of the left rear corner.



33. View of the right rear corner.



34. View of the right side plane.



35. Perpendicular view of the left front fender and bumper.



36. View of the right front corner.



37. Perpendicular view of the right front door surface which includes the driver's shoulder belt, the driver side air bag, the passenger side air bag, relative position of the front seats to the instrument panel, contact evidence on the right door grab handle, roof, and upper B-pillar.



38. Closer view of the roof and right upper B-pillar highlighting a liner abrasion along the roof fabric and the fracture of the vinyl shroud over the pillar.

39. Close-up view of the fractured vinyl shroud over the right upper B-pillar.



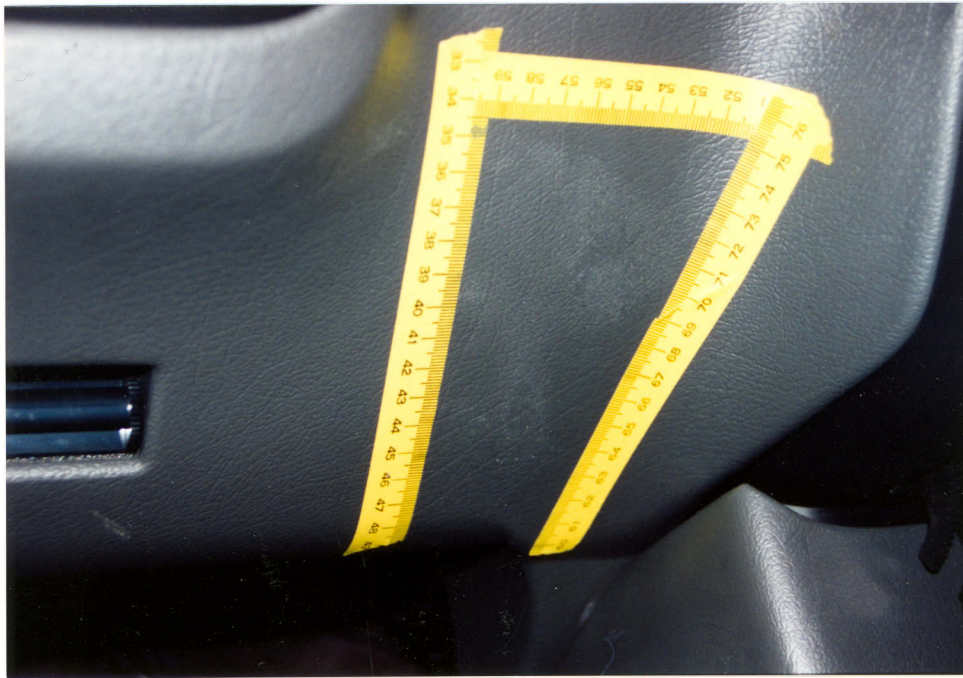
40. Close-up view scrape marks on the right front door grab handle.



41. Angular view of the driver's side air bag module with the air bag placed back into the module.



42. Close-up view of the knee bolster highlighting contact by the driver's left knee and lower leg.



43. Close-up view of the steering column highlighting contact by the driver's right knee lower leg.



44. Vertical view of the driver's area.



45. Close-up view of the air bag warning label on the driver side sunvisor.

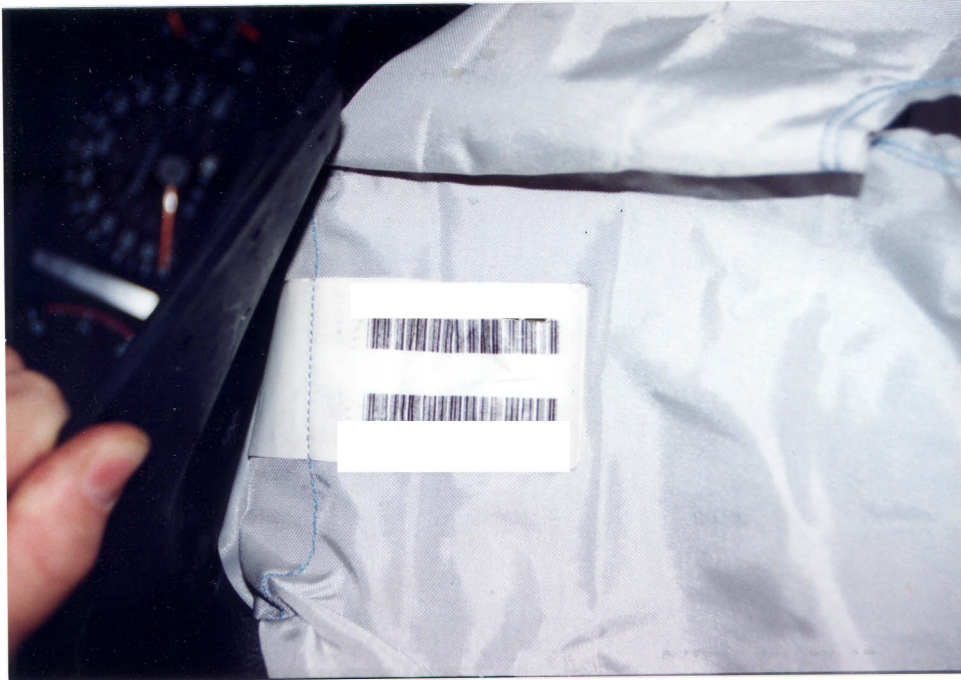


46. Close-up view of the upper flap of the driver side air bag module.

47. View of contact evidence on the surface of the driver side air bag.



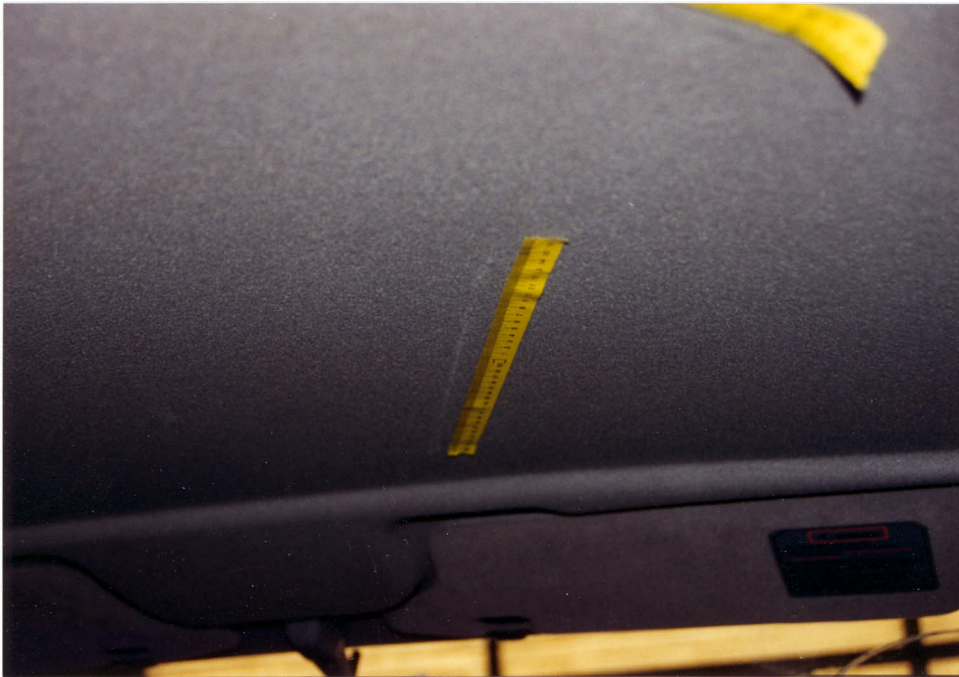
48. Close-up view of lipstick and mascara on the surface of the driver side air bag.



49. View of the driver side air bag identification number.



50. Overall view of the front seats and instrument panel.



51. Close-up view of the linear abrasion of the roof fabric.



52. Overall view of the right front instrument panel highlighting the air bag system warning label, passenger side air bag module cover (the air bag placed back into the module) and instrument panel.



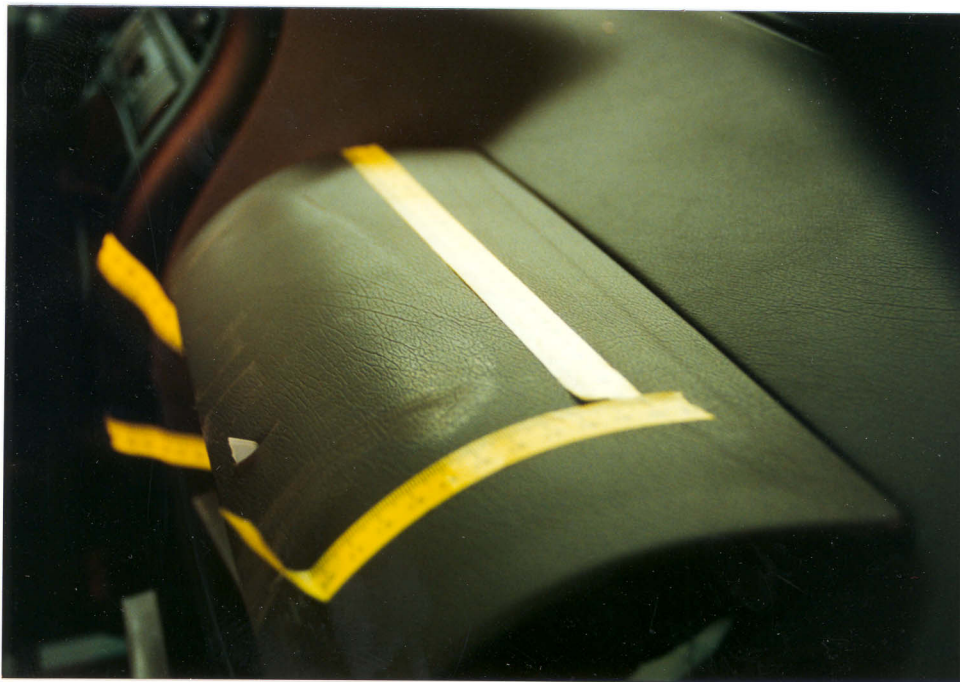
53. Close-up view of the air bag warning label on the right front passenger side sunvisor.



54. Close-up view of the warning label on the lap portion of the right front manual lap and shoulder belt



55, 56. Closer views of the right instrument panel highlighting contact evidence on the surface of the passenger side module cover.



57, 58. Lateral views of the passenger side air bag module cover looking from right to left showing contact evidence associated with the rear surface of the infant child safety seat. The small light colored vinyl fragment noted near the bottom edge of the cover was part of the safety seat that was embedded in the surface of the cover. The outline of the child safety seat is more prominent in photograph #58.

59. View of the right side instrument panel with the passenger side air bag extended from the module.



60. Close-up view of the broken portion of the right side instrument panel just below the passenger side air bag module.



61. Close-up view of air bag generant residue located on the center instrument panel which was adjacent to the air bag vent port.



62. View of a scuff mark on the glove compartment door.



63. Perpendicular view of the left front door surface which includes the driver side air bag, the passenger side air bag, relative position of the front seats to the instrument panel, contact evidence on the passenger side air bag module cover, and the position of the right front belt.



64. View of the right front restraint belt showing the attachment position and placement of the belt initially observed at the beginning of the investigation.



65. On-scene police photograph showing the position of the child safety seat upon arrival by the police.



66. On-scene police photograph showing the lap portion of the manual three point lap and torso restraint belt.



67. On-scene photograph showing the right front restraint belt latched upon arrival by the police department.



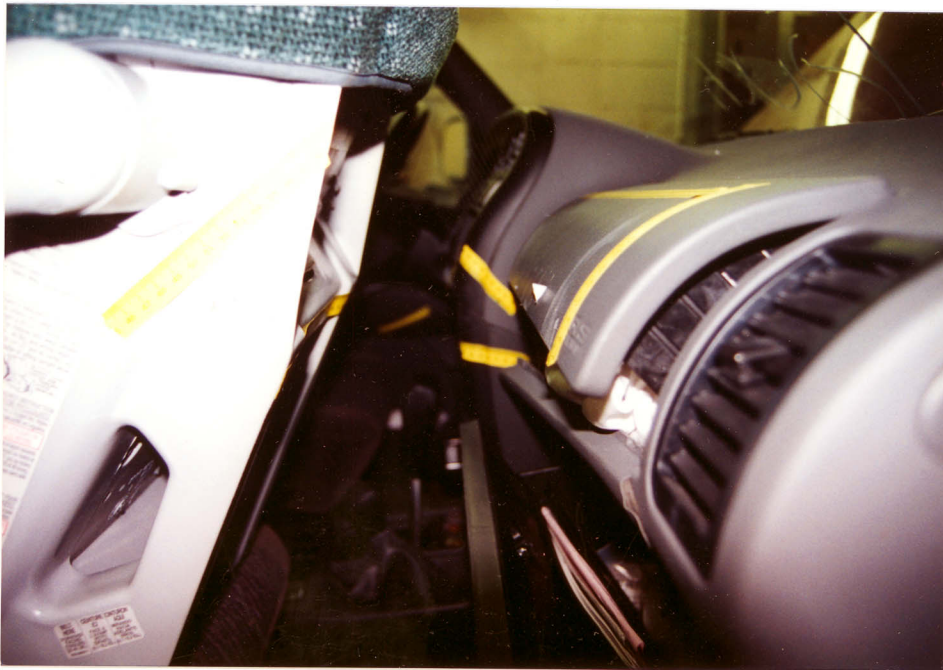
68. On-scene police photograph showing the rear seating area.



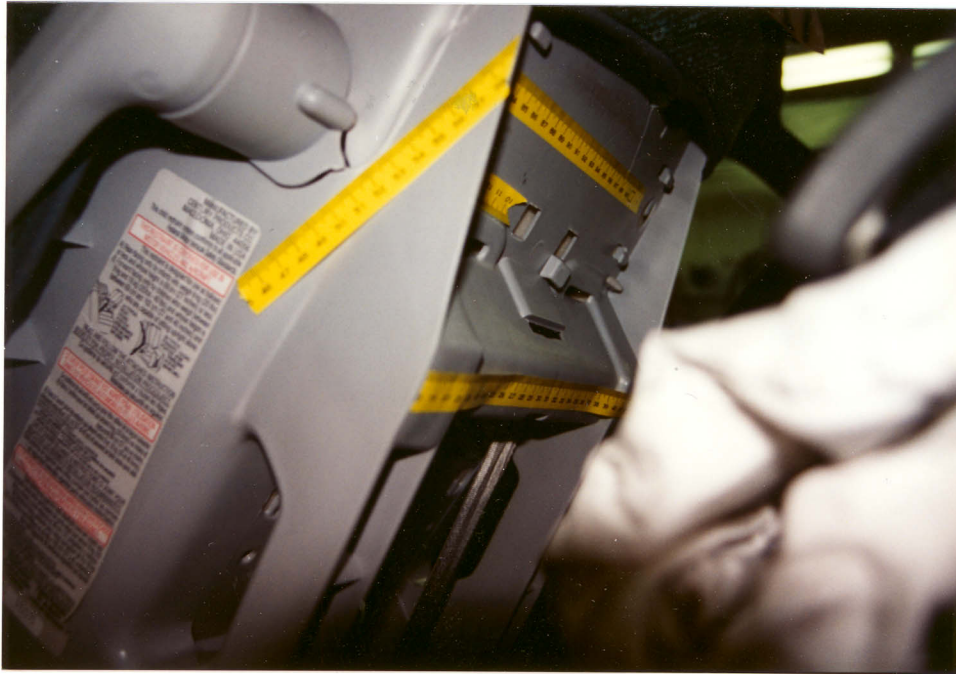
69. Lateral view of the child safety seat remounted in the right front seat against the seat back rest with the lap portion of the restraint belt placed over the child seat armrests showing the relative distance between the back of the child safety seat and the passenger side air bag module cover.



70. View of the child safety seat from the rear seat.



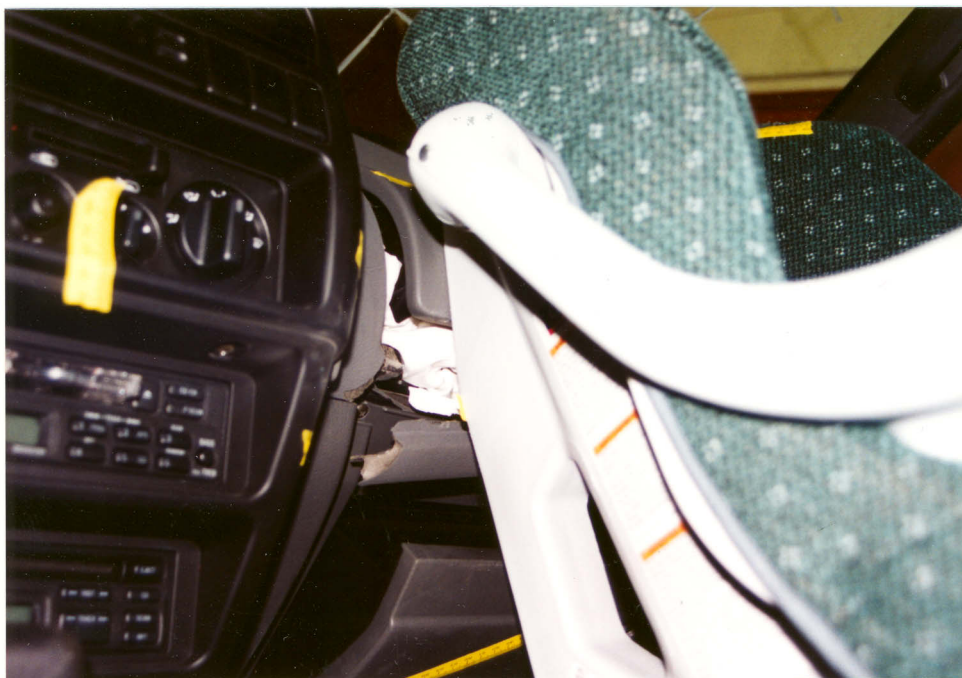
71, 72. Lateral views of the child safety seat showing the distance between the back of the child seat and the passenger side air bag module cover with the child seat placed against the right front seat back rest.



73. View of the rear surface of the child safety seat showing the relative distance of the seat to the passenger side module cover.



74. Lateral view of the child safety seat remounted in the right front seat with the back of the seat positioned closer to the passenger side air bag module cover with the lap portion of the restraint belt not placed over the child safety seat armrests. This placement more closely reflects the position of the seat at the time of the crash.



75, 76. Closer views of the child safety seat positioned near the passenger side air bag module cover.



77, 78. Lateral views from the right side of the vehicle showing the relative distance between the child safety seat and the passenger side air bag module cover. The child safety seat was positioned close to the air bag module cover.



79, 80. Views of the child safety seat placed in a simulated position which represents the rearward movement of the seat and contacted interior components.



81, 82. Additional views of the child safety seat from looking from the rear and right side of the vehicle.



83. Overall side view of the child safety seat.



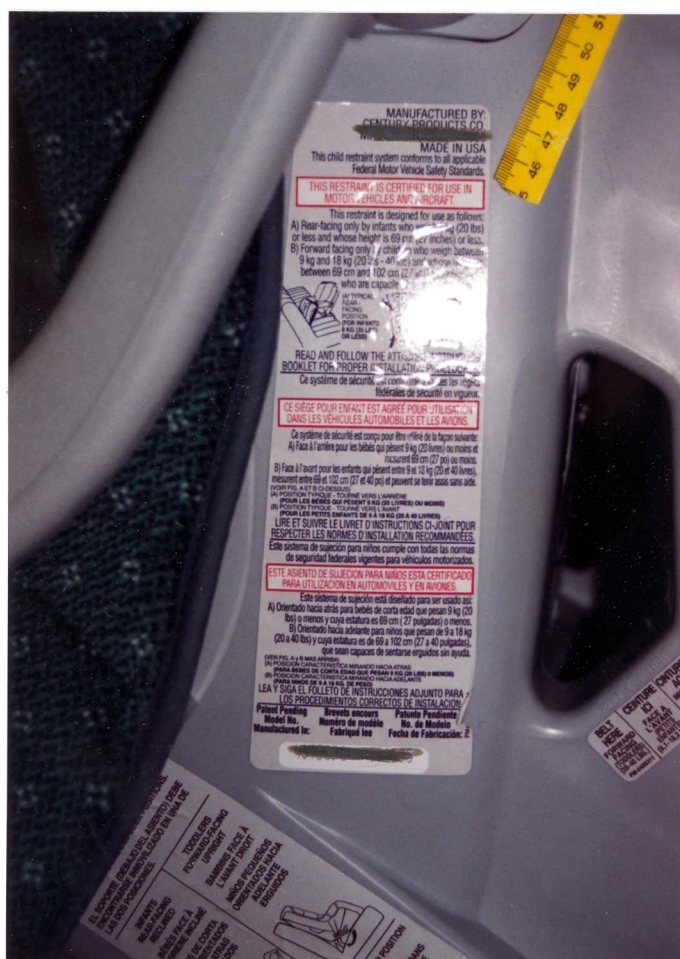
84. Close-up of the seat covering which shows the designed fabric flap which was tucked behind the seat covering. The flap covers the restraint belt attachment bracket designed to be used for a rearward facing infant safety seat position.



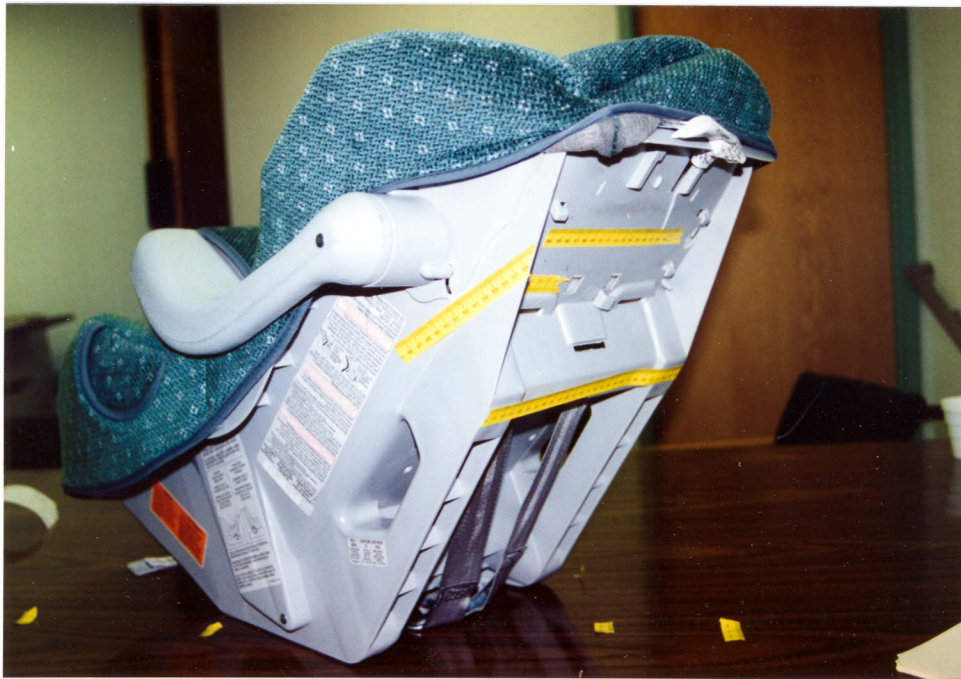
85. Close-up view of the restraint belt bracket with the fabric flap pulled back.



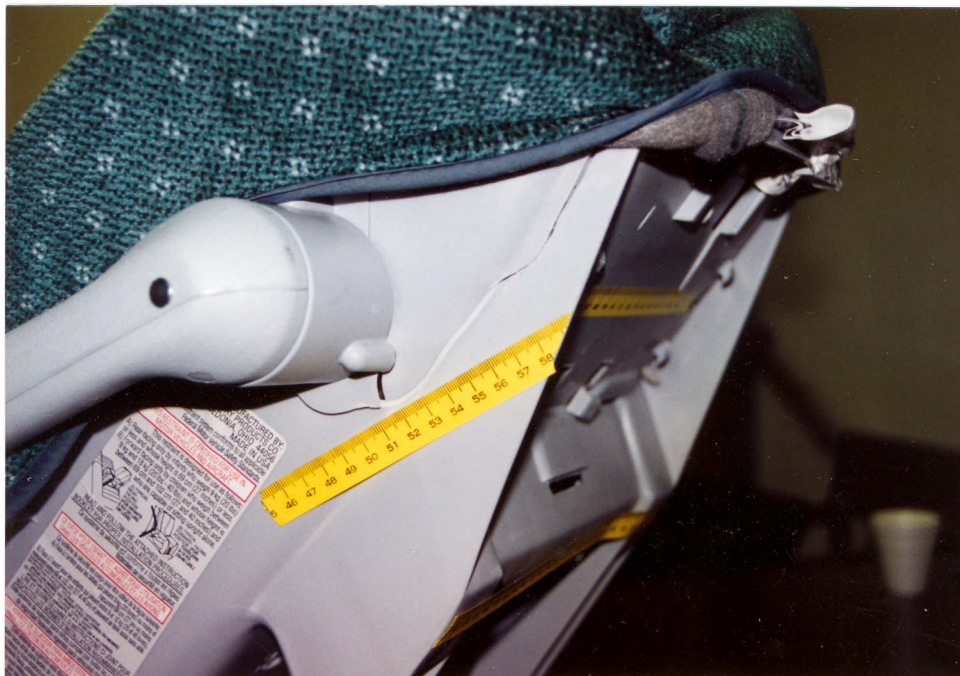
86. View of the child safety seat with the seat cover removed showing the restraint belt bracket and warning labels.



87, 88. Views of the warning label and seat installation guidelines.

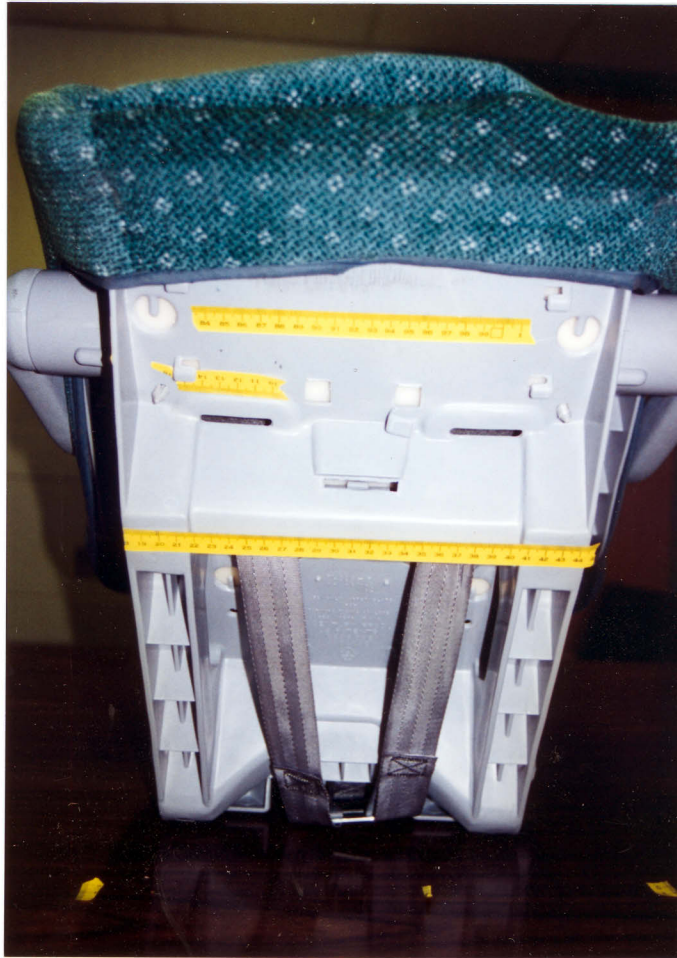


89. View showing damage to the child safety seat.



90. Close-up view of the fracture located adjacent to the shield support arm.

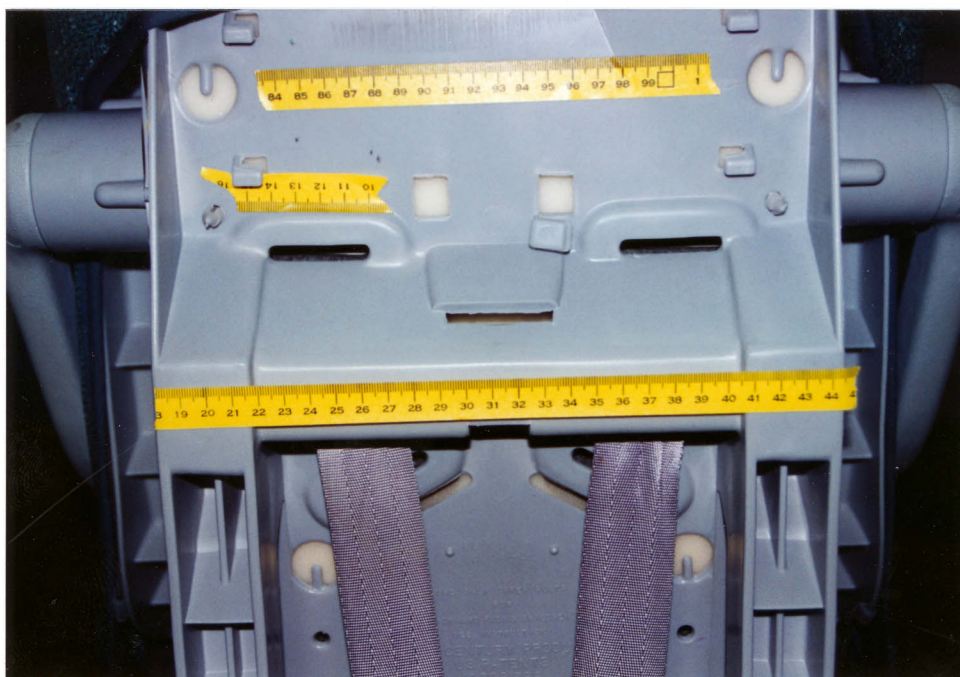
91. View of the passenger side air bag module cover and air bag contact evidence.



92. Close-up view of the contact evidence on the upper portion of the safety seat back rest from the passenger side air bag module cover.



93. Similar view to the previous photograph with the seat cover removed from the seat.



94. View of contact evidence from the passenger side air bag.



95, 96. Additional views of the child safety seat.

97. Frontal view with the shield in the down position.



98. Close-up view of the tear in the fabric resulting from contact with the vinyl cover over the right side upper B-pillar.

99. Another view of the tear in the seat cover.

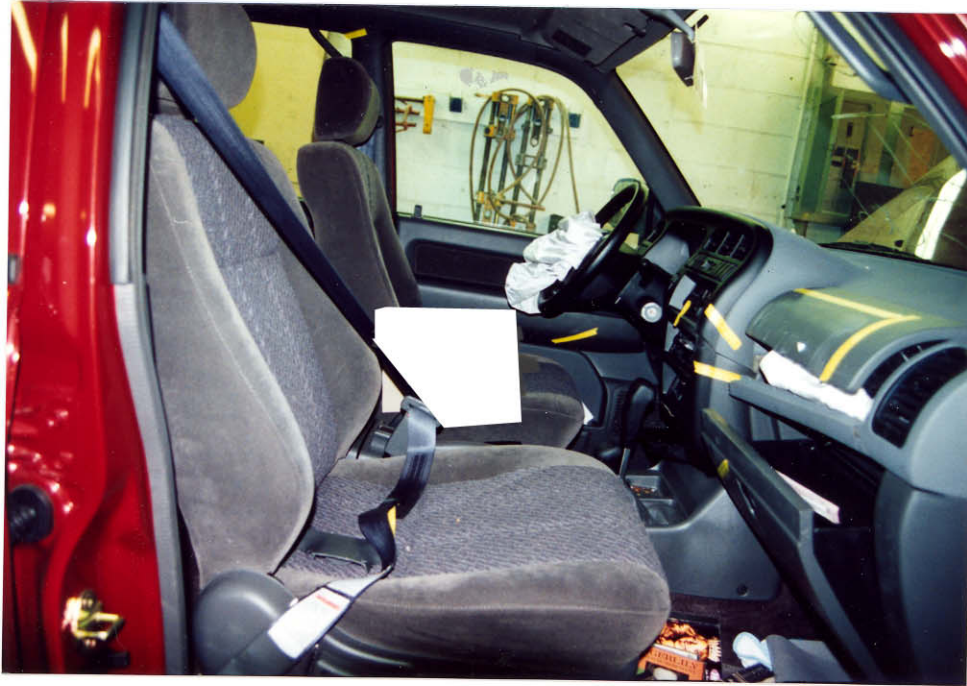


100. Lateral view of the second seat row.

101. View of contact evidence on the driver side seat back rest.



102. View of the rear cargo area.

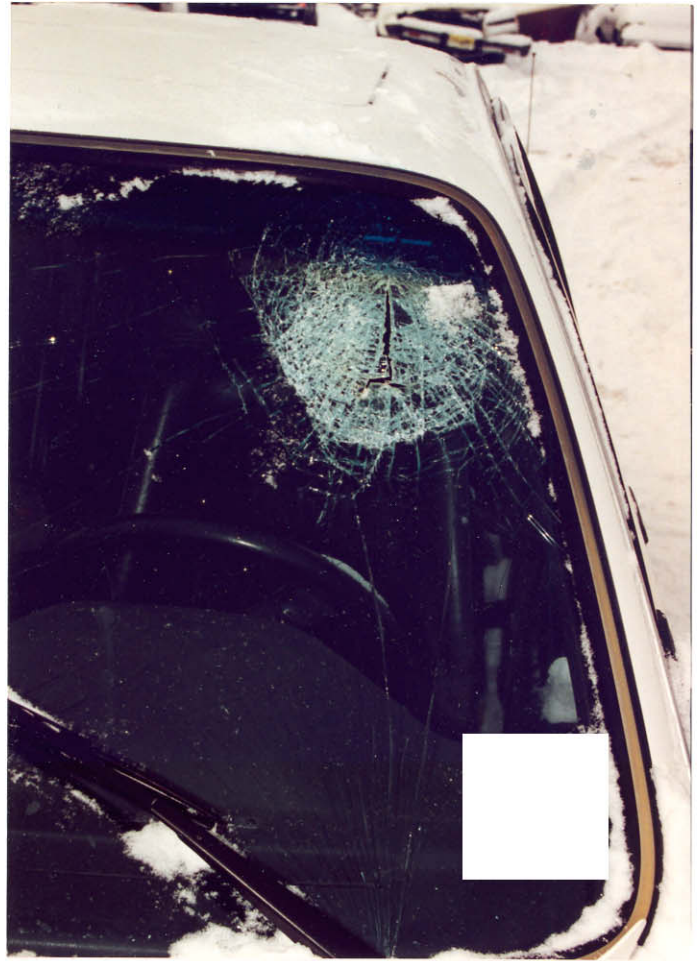


103, 104. Views of the right front seat adjusted to the specifications developed for the FVMSS 208 Standard to determine whether this vehicle qualified for the manual "cutoff device" that would deactivate the passenger side air bag.



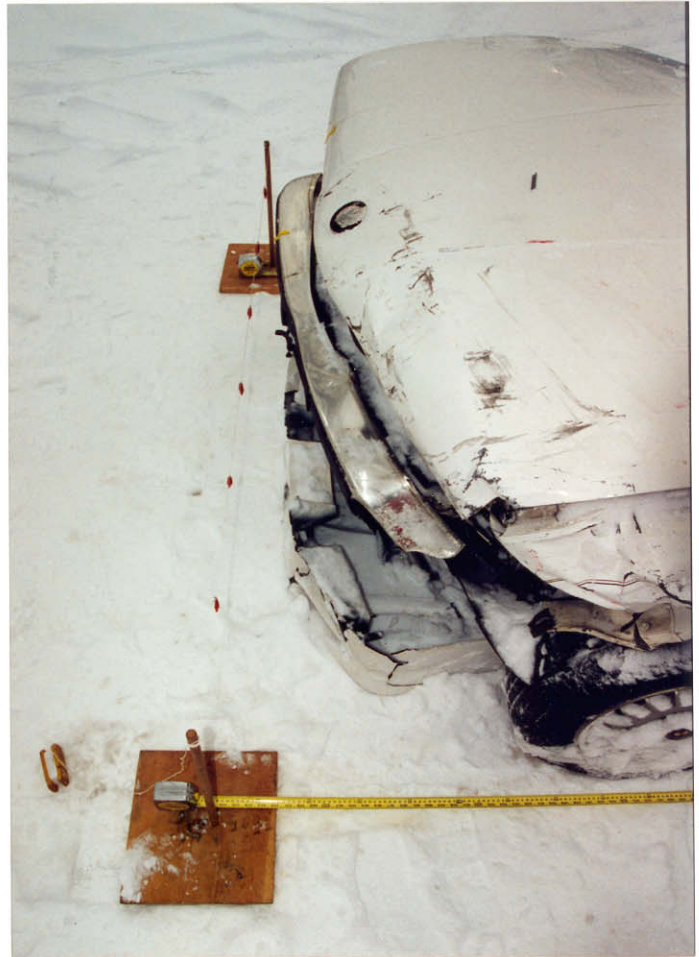
105, 106. Frontal views of the 1986 BMW 325 ES (Vehicle #2) showing impact damage.

107. View showing contact evidence on the windshield by the unrestrained driver.



108. Lateral view from the right side illustrating longitudinal crush.

109. Lateral view from the left side illustrating longitudinal crush.



110. Longitudinal view along the left side plane illustrating the rearward and lateral crush pattern.





111. Left front corner view.



112. Left side view.



113. Left rear corner view.



114. Right side view.



115. View of the right front corner.



116. Perpendicular view of the right front door surface of Vehicle #2 including a lateral view of the left front seat back rest and instrument panel.



117. Angular view of the windshield and instrument panel.



118. View of the contact evidence on the windshield.

119. Close-up view of the contact evidence on the windshield.



120. View of the lower left instrument panel.

ATTACHMENT B

SMASH ALGORITHM

SCI Case NO. 96-02

| | Speed Change (Damage) | Speed Change (Linear Momentum and Spinout) | Impact Speed (Linear Momentum and Spinout) |
|--|--------------------------------|--|--|
| Vehicle #1 | | | |
| Total | 25 km/h (15 mph) | 25 km/h (15 mph) | 9 km/h (5 mph) |
| Longitudinal | -24 km/h (-15 mph) | -24 km/h (-15 mph) | 9 km/h (5 mph) |
| Latitudinal | -6 km/h (-4 mph) | -7 km/h (-4 mph) | 0 km/h (0 mph) |
| PDOF Angle | 15 ½ | 16 ½ | |
| Energy Dissipated | = 106756 Joules (78729 Ft-Lb) | | |
| Barrier Equivalent Speed | = 34.9 km/h (21.7 mph) | | |
| Calculated using crush coefficients entered by the user. | | | |

| | | | |
|--|-------------------------------|---------------------|-------------------|
| Vehicle #2 | | | |
| Total | 41 km/h (25 mph) | 40 km/h (25 mph) | 60 km/h (38 mph) |
| Longitudinal | -39 km/h (-24 mph) | -39 km/h (-24 mph) | 60 km/h (38 mph) |
| Latitudinal | 11 km/h (7 mph) | 9 km/h (6 mph) | 0 km/h (0 mph) |
| PDOF Angle | -15 ½ | -14 ½ | |
| Energy Dissipated | = 28281 Joules (20856 Ft-Lb) | | |
| Barrier Equivalent Speed | = 24.0 km/h (14.9 mph) | | |
| Calculated using crush coefficients entered by the user. | | | |

Separation Results

| | Vehicle #1 ááááááááááá | Vehicle #2 ááááááááááá |
|--|---------------------------|---------------------------|
| Separation (Using Spinout) | | |
| us | -15 km/h (-9 mph) | 21 km/h (13 mph) |
| vs | -7 km/h (-4 mph) | 9 km/h (6 mph) |
| psisd | -58 deg/sec | 37 deg/sec |
| Relative Velocity (Linear Momentum) | | |
| Speed along line through cg | 9 km/h (5 mph) | 57 km/h (36 mph) |
| Speed orthogonal to cg line | -2 km/h (-1 mph) | 19 km/h (12 mph) |
| Closing Velocity (Linear Momentum) = 66 km/h (41 mph) | | |

General Information

| | Vehicle #1 áááááááááá | Vehicle #2 áááááááááá |
|---------------|--------------------------|--------------------------|
| Year | 1995 | 1986 |
| Make | Isuzu | BMW |
| Model | Trooper | 325 ES |
| CDC | 01FDEW2 | 11FDEW2 |
| Side Damaged | F | F |
| PDOF Angle | 15 ½ | -15 ½ |
| Heading Angle | 163 ½ | 5 ½ |

Calculation method: Vehicle's Crush Coeff.

Vehicle's Crush Coeff.

d0 crush coeff. 109.73 sqrt(N)
d1 crush coeff. 8.51 sqrt(N)/cm

97.06 sqrt(N)
7.22 sqrt(N)/cm

Damage Information

| | Vehicle #1 áááááááááá Yes | Vehicle #2 áááááááááá Yes |
|----------------------|---------------------------------|---------------------------------|
| Vehicle Damage Known | | |
| Crush Length | | |
| C1 | 160.0 cm (63 in) | 142.2 cm (56 in) |
| C2 | 29.2 cm (11 in) | 38.1 cm (15 in) |
| C3 | 24.1 cm (9 in) | 19.1 cm (8 in) |
| C4 | 27.9 cm (11 in) | 13.0 cm (5 in) |
| C5 | 33.7 cm (13 in) | 7.4 cm (3 in) |
| C6 | 34.3 cm (14 in) | 3.2 cm (1 in) |
| D | 29.7 cm (12 in) | 0.0 cm (0 in) |
| D' | 5.0 cm (2 in) | -15.1 cm (-6 in) |
| | 9.0 cm (4 in) | -46.4 cm (-18 in) |

Scene Information

| | Vehicle #1 áááááááááááá | Vehicle #2 áááááááááááá |
|-----------------|----------------------------|----------------------------|
| Impact | | |
| x position | 3.9 m (12.8 ft) | -0.6 m (-2.0 ft) |
| y position | 4.6 m (15.1 ft) | 5.7 m (18.7 ft) |
| heading angle | 155 ½ | 5 ½ |
| Rest | | |
| x position | 6.5 m (21.3 ft) | 2.8 m (9.2 ft) |
| y position | 4.6 m (15.1 ft) | 7.6 m (24.9 ft) |
| heading angle | 116 ½ | 15 ½ |
| Side-Slip Angle | 0 ½ | 0 ½ |

Motion Information

| | Vehicle #1 áááááááááááá | Vehicle #2 áááááááááááá |
|--|----------------------------|----------------------------|
| Did Vehicle Rotate? | Yes | Yes |
| Did Rotation Stop? | No | No |
| End of Rotation x position | 6.5 m (21.3 ft) | 2.8 m (9.2 ft) |
| End of Rotation y position | 4.6 m (15.1 ft) | 7.6 m (24.9 ft) |
| End of Rotation angle | 116.0 ½ | 15.0 ½ |
| Curved Path? | No | No |
| Curved Path x position | 0.0 m (0.0 ft) | 0.0 m (0.0 ft) |
| Curved Path y position | 0.0 m (0.0 ft) | 0.0 m (0.0 ft) |
| Direction of Rotation | CCW | CW |
| Amount of Rotation | < 360½ | < 360½ |
| Was There Sustained Contact Between the Vehicles? No | | |

Friction Information

| | Vehicle #1 áááááááááá | Vehicle #2 áááááááááá |
|--------------------|--------------------------|--------------------------|
| Rolling Resistance | | |
| Left Front Wheel | 0.28 | 1.00 |
| Right Front Wheel | 0.28 | 0.01 |
| Left Rear Wheel | 0.28 | 0.28 |
| Right Rear Wheel | 0.28 | 0.28 |

Coefficient of Friction = 0.68

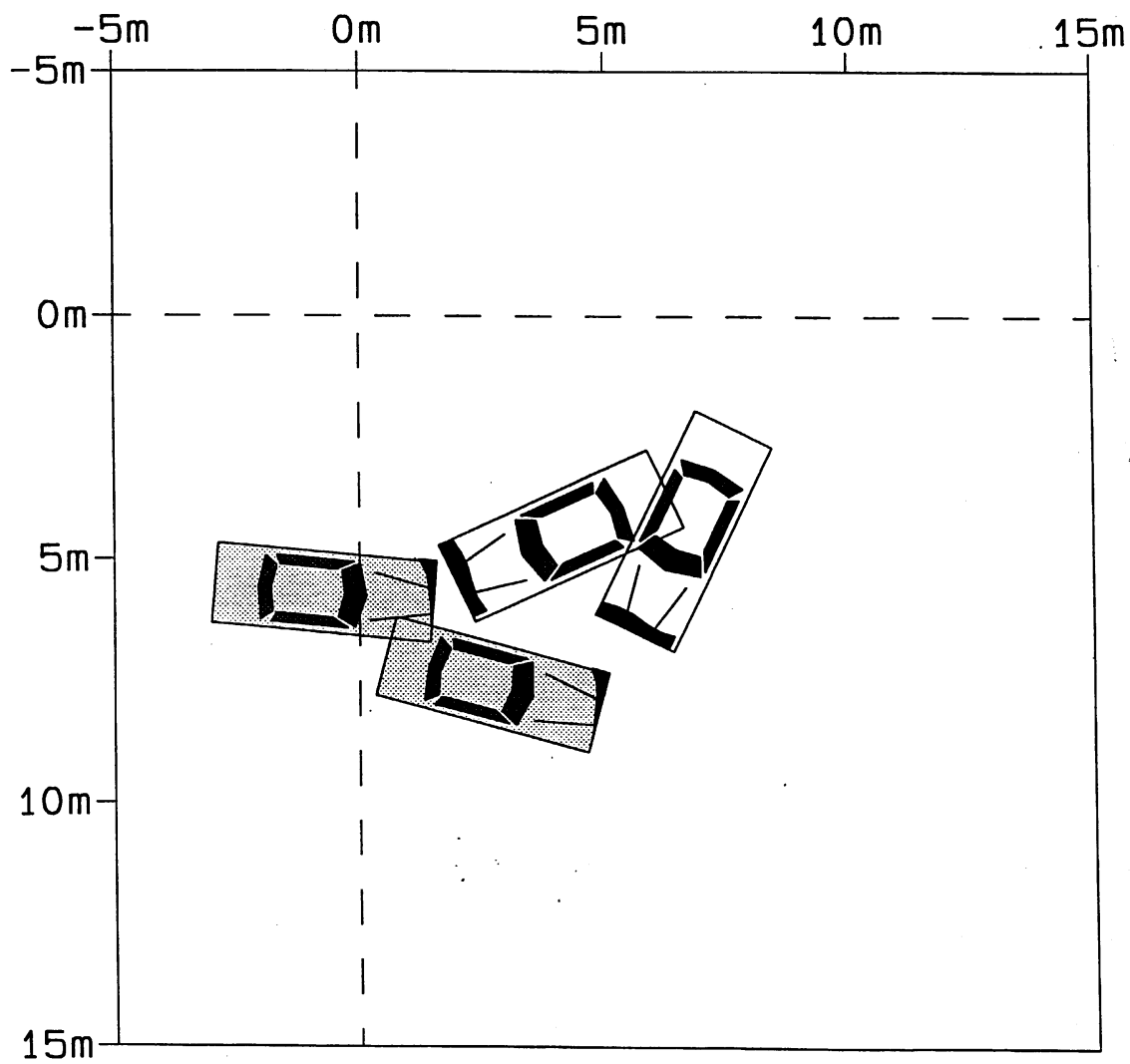
Vehicle Dimensions

| | Vehicle #1 áááááááááááá | Vehicle #2 áááááááááááá |
|---------------------|--|---------------------------------------|
| Length | 466.1 cm (184 in) | 446.0 cm (176 in) |
| Width | 174.5 cm (69 in) | 165.0 cm (65 in) |
| Wheelbase | 276.0 cm (109 in) | 257.0 cm (101 in) |
| Weight | 2063 kgs (4548 lbs) | 1262 kgs (2782 lbs) |
| CG to Front of Veh | 211.6 cm (83 in) | 211.6 cm (83 in) |
| Engine Displacement | 3.7 liters | 2.7 liters |
| Moment of Inertia | 404734 kgs (35824 lbs) | 226792 kgs (20074 lbs) |
| Vehicle Mass | 2063 kgs (11.8 lb-s ² /in) | 1262 kgs (7.2 lb-s ² /in) |

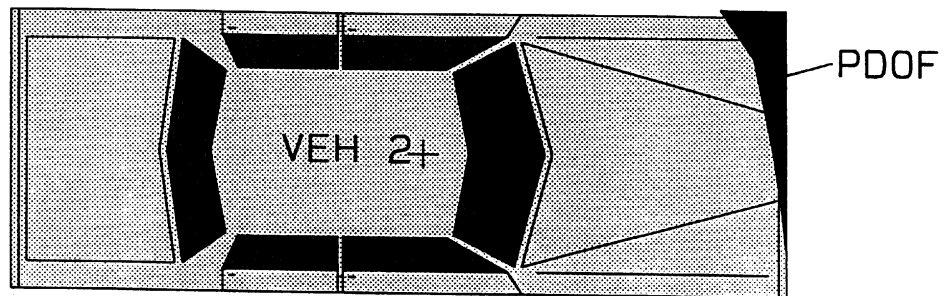
Trajectory Simulation Results

Simulation Time: 0.000 seconds Integration Step = 0.000 seconds

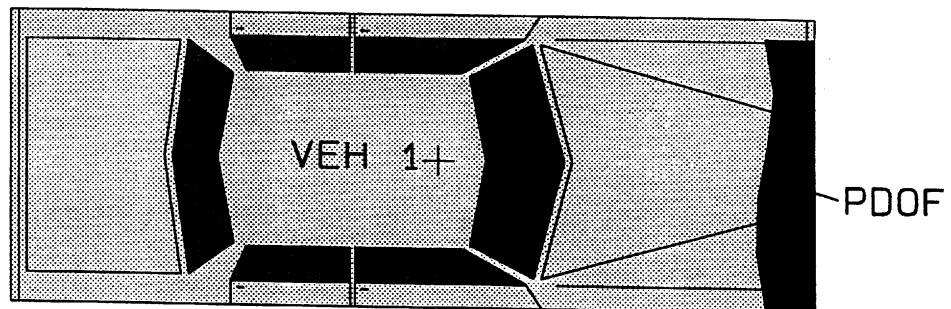
| | Vehicle #1 áááááááááááá | Vehicle #2 áááááááááááá |
|--------------------------|----------------------------|----------------------------|
| No. of Iterations | 0 | 0 |
| Best Iteration | 0 | 0 |
| Error | 0.000 | 0.000 |
| Predicted Rest Positions | | |
| x | 0.0 m (0.0 ft) | 0.0 m (0.0 ft) |
| y | 0.0 m (0.0 ft) | 0.0 m (0.0 ft) |
| angle | 0.0 ½ | 0.0 ½ |
| Scene Rest Positions | | |
| x | 6.5 m (21.3 ft) | 2.8 m (9.2 ft) |
| y | 4.6 m (15.1 ft) | 7.6 m (24.9 ft) |
| angle | 116.0 ½ | 15.0 ½ |
| Residual Velocity | | |
| Linear | 0 km/h (0 mph) | 0 km/h (0 mph) |
| Angular | 0.00 deg/sec | 0.00 deg/sec |



1986 BMW 325 ES



1995 Isuzu Trooper



I Case NO. 96-02
1996



GENERAL VEHICLE FORM

1. Primary Sampling Unit Number
2. Case Number - Stratum 96-02
3. Vehicle Number 01

VEHICLE IDENTIFICATION

4. Vehicle Model Year 95
Code the last two digits of the model year
(99) Unknown
5. Vehicle Make (specify): 38
ISUZU
Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.
(99) Unknown
6. Vehicle Model (specify): 401
Tramper
Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.
(999) Unknown
7. Body Type 14
Note: Applicable codes may be found on
the back of this page.
8. Vehicle Identification Number
JACDJ58V4S7 (Serial # omitted)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Left justify; Slash zeros and letter Z (0 and Z)
No VIN—Code all zeros
Unknown—Code all nines
9. Vehicle Special Use (This Trip) 0
(0) No special use
(1) Taxi
(2) Vehicle used as school bus
(3) Vehicle used as other bus
(4) Military
(5) Police
(6) Ambulance
(7) Fire truck or car
(8) Other (specify):
(9) Unknown

OFFICIAL RECORDS

10. Police Reported Vehicle Disposition 1
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown
11. Police Reported Travel Speed 999
Code to the nearest kmph (NOTE: 000 means
less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown
 mph X 1.6093 = kmph

12. Speed Limit 064
(000) No statutory limit
Code posted or statutory speed limit in kmph
(999) Unknown
40 mph X 1.6093 = kmph
13. Police Reported Alcohol Presence For Driver 0
(0) No alcohol present
(1) Yes alcohol present
(7) Not reported
(8) No driver present
(9) Unknown
14. Alcohol Test Result For Driver 96
Code actual value (decimal implied
before first digit—0.xx)
(95) Test refused
(96) None given
(97) AC test performed, results unknown
(98) No driver present
(99) Unknown
Source:
15. Police Reported Other Drug Presence For Driver 0
(0) No other drug(s) present
(1) Yes other drug(s) present
(7) Not reported
(8) No driver present
(9) Unknown
16. Other Drug Specimen Test Result For Driver 0
(0) No specimen test given
(1) Drug(s) not found in specimen
(2) Drug(s) found in specimen, (specify):

(3) Specimen test given, results unknown or not
obtained
(8) No driver present
(9) Unknown if specimen test given
17. Driver's Zip Code
(00001) Driver not a resident of U.S. or territories
 Code actual 5-digit zip code
(99998) No driver present
(99999) Unknown
18. Driver's Race/Ethnic Origin 9
(1) White (non-Hispanic)
(2) Black (non-Hispanic)
(3) White (Hispanic)
(4) Black (Hispanic)
(5) American Indian, Eskimo or Aleut
(6) Asian or Pacific Islander
(7) Other (specify):

(8) No driver present
(9) Unknown

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): _____
- (09) Unknown automobile type

Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

Utility Vehicles ($\leq 4,536$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

Van Based Light Trucks ($\leq 4,536$ kgs GVWR)

- (20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ($\leq 4,536$ kgs GVWR)
- (23) Van based motorhome ($\leq 4,536$ kgs GVWR)
- (24) Van based school bus ($\leq 4,536$ kgs GVWR)
- (25) Van based other bus ($\leq 4,536$ kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): _____
- (29) Unknown van type

Light Conventional Trucks (Pickup style cab, $\leq 4,536$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)
- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

Other Light Trucks ($\leq 4,536$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): _____
- (59) Unknown bus type

Medium/Heavy Trucks ($> 4,536$ kgs GVWR)

- (60) Step van ($> 4,536$ kgs GVWR)
- (61) Single unit straight truck ($4,536$ kgs $<$ GVWR $\leq 8,845$ kgs)
- (62) Single unit straight truck ($8,845$ kgs $<$ GVWR $\leq 11,793$ kgs)
- (63) Single unit straight truck ($> 11,793$ kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): _____
- (89) Unknown motored cycle type

Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

19. Relation To Interchange Or Junction 1
 (0) Non-interchange area and non-junction
 (1) Interchange area related
Non-Interchange junctions
 (2) Intersection related
 (3) Driveway, alley access related
 (4) Other junction (specify) _____
 (5) Unknown type of junction
 (9) Unknown

20. Trafficway Flow 0
 (0) Not physically divided (two way traffic)
 (1) Divided trafficway-median strip without positive barrier
 (2) Divided trafficway-median strip with positive barrier
 (3) One way traffic
 (9) Unknown

21. Number Of Travel Lanes 2
 (1) One
 (2) Two
 (3) Three
 (4) Four
 (5) Five
 (6) Six
 (7) Seven or more
 (9) Unknown

22. Roadway Alignment 1
 (1) Straight
 (2) Curve right
 (3) Curve left
 (9) Unknown

23. Roadway Profile 1
 (1) Level ⊖ 1.7%
 (2) Uphill grade (> 2%)
 (3) Hill crest
 (4) Downhill grade (> 2%)
 (5) Sag
 (9) Unknown

24. Roadway Surface Type 2
 (1) Concrete
 (2) Bituminous (asphalt)
 (3) Brick or block
 (4) Slag, gravel, or stone
 (5) Dirt
 (8) Other (specify): _____
 (9) Unknown

25. Roadway Surface Condition 1
- (1) Dry
 - (2) Wet
 - (3) Snow or slush
 - (4) Ice
 - (5) Sand, dirt, or oil
 - (8) Other (specify): _____
 - (9) Unknown
26. Light Conditions 1
- (1) Daylight
 - (2) Dark
 - (3) Dark, but lighted
 - (4) Dawn
 - (5) Dusk
 - (9) Unknown
27. Atmospheric Conditions 0
- (0) No adverse atmospheric-related driving conditions
 - (1) Rain
 - (2) Sleet/hail
 - (3) Snow
 - (4) Fog
 - (5) Rain and fog
 - (6) Sleet and fog
 - (7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): _____
 - (9) Unknown
28. Traffic Control Device 0
- (0) No traffic control(s)
 - (1) Traffic control signal (not RR crossing)
- Regulatory*
- (2) Stop sign
 - (3) Yield sign
 - (4) School zone sign
 - (5) Other regulatory sign (specify): _____
 - (6) Warning sign (not RR crossing)
 - (7) Unknown sign
 - (8) Miscellaneous/other controls including RR controls (specify): _____
 - (9) Unknown
29. Traffic Control Device Functioning 6
- (0) No traffic control device
 - (1) Traffic control device not functioning (specify): _____
 - (2) Traffic control device functioning properly
 - (9) Unknown

PRECRASH DRIVER RELATED DATA

30. Driver's Distraction/Inattention To Driving (Prior To Recognition Of Critical Event) 0 3
- (00) No driver present
 (01) Attentive or not distracted
 (02) Looked but did not see
- Distractions*
 (03) By other occupant(s), (specify): In front in RF seat 18 month old child in RR
 (04) By moving object in vehicle (specify): 43 yr old in LR
 (05) While talking or listening to cellular phone (specify location and type of phone): _____
 (06) While dialing cellular phone (specify location and type of phone): _____
 (07) While adjusting climate controls
 (08) While adjusting radio, cassette, CD (specify): _____
 (09) While using other device/controls integral to vehicle (specify): _____
 (10) While using or reaching for device/object brought into vehicle (specify): _____
 (11) Sleepy or fell asleep
 (12) Distracted by outside person, object, or event (specify): _____
 (13) Eating or drinking
 (14) Smoking related
 (97) Distracted/inattentive, details unknown
 (98) Other, distraction (specify): _____
 (99) Unknown
31. Pre-Event Movement (Prior To Recognition Of Critical Event) 0 1
- (00) No driver present
 (01) Going straight
 (02) Decelerating in traffic lane
 (03) Accelerating in traffic lane
 (04) Starting in traffic lane
 (05) Stopped in traffic lane
 (06) Passing or overtaking another vehicle
 (07) Disabled or parked in travel lane
 (08) Leaving a parking position
 (09) Entering a parking position
 (10) Turning right
 (11) Turning left
 (12) Making a U-turn
 (13) Backing up (other than for parking position)
 (14) Negotiating a curve
 (15) Changing lanes
 (16) Merging
 (17) Successful avoidance maneuver to a previous critical event
 (97) Other (specify): _____
 (99) Unknown
32. Critical Precrash Event 1 5
- THIS VEHICLE LOSS OF CONTROL DUE TO:**
 (01) Blow out or flat tire
 (02) Stalled engine
 (03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
 (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
 (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
 (06) Traveling too fast for conditions
 (08) Other cause of control loss (specify): _____
 (09) Unknown cause of control loss

THIS VEHICLE TRAVELLING

- (10) Over the lane line on left side of travel lane
 (11) Over the lane line on right side of travel lane
 (12) Off the edge of the road on the left side
 (13) Off the edge of the road on the right side
 (14) End departure
 (15) Turning left at intersection
 (16) Turning right at intersection
 (17) Crossing over (passing through) intersection
 (18) This vehicle decelerating
 (19) Unknown travel direction

OTHER MOTOR VEHICLE IN LANE

- (50) Other vehicle stopped
 (51) Traveling in same direction with lower steady speed
 (52) Traveling in same direction while decelerating
 (53) Traveling in same direction with higher speed
 (54) Traveling in opposite direction
 (55) In crossover
 (56) Backing
 (59) Unknown travel direction of other motor vehicle in lane

OTHER MOTOR VEHICLE ENCROACHING INTO LANE

- (60) From adjacent lane (same direction)—over left lane line
 (61) From adjacent lane (same direction)—over right lane line
 (62) From opposite direction—over left lane line
 (63) From opposite direction—over right lane line
 (64) From parking lane
 (65) From crossing street, turning into same direction
 (66) From crossing street, across path
 (67) From crossing street, turning into opposite direction
 (68) From crossing street, intended path not known
 (70) From driveway, turning into same direction
 (71) From driveway, across path
 (72) From driveway, turning into opposite direction
 (73) From driveway, intended path not known
 (74) From entrance to limited access highway
 (78) Encroachment by other vehicle—details unknown

PEDESTRIAN, PEDALCYCLIST, OR OTHER NONMOTORIST

- (80) Pedestrian in roadway
 (81) Pedestrian approaching roadway
 (82) Pedestrian—unknown location
 (83) Pedalcyclist or other nonmotorist in roadway (specify): _____
 (84) Pedalcyclist or other nonmotorist approaching roadway, (specify): _____
 (85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

OBJECT OR ANIMAL

- (87) Animal in roadway
 (88) Animal approaching roadway
 (89) Animal—unknown location
 (90) Object in roadway
 (91) Object approaching roadway
 (92) Object—unknown location
 (98) Other critical precrash event (specify): _____
 (99) Unknown

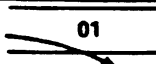
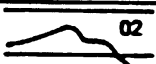
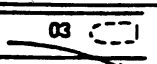
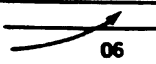
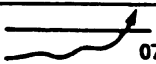
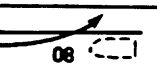
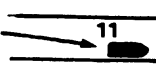

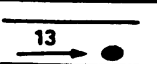
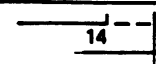
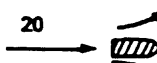
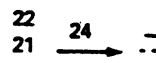
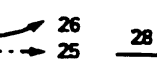
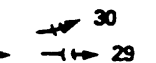

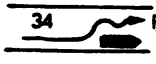
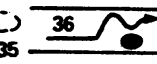
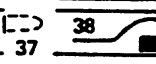
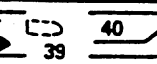
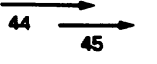
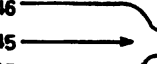

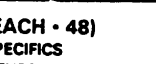
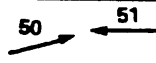
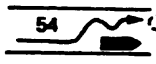
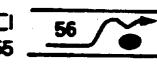
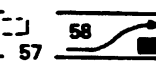
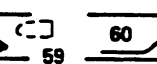
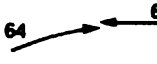

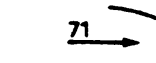
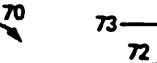
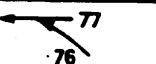


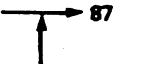
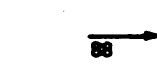

33. Attempted Avoidance Maneuver 01
- (00) No driver present
 - (01) No avoidance maneuver
 - (02) Braking (no lockup)
 - (03) Braking (lockup)
 - (04) Braking (lockup unknown)
 - (05) Releasing brakes
 - (06) Steering left
 - (07) Steering right
 - (08) Braking and steering left
 - (09) Braking and steering right
 - (10) Accelerating
 - (11) Accelerating and steering left
 - (12) Accelerating and steering right
 - (98) Other action (specify): _____
 - (99) Unknown

34. Pre-Impact Stability 1
- (0) No driver present
 - (1) Tracking
 - (2) Skidding longitudinally—rotation less than 30 degrees
 - (3) Skidding laterally—clockwise rotation
 - (4) Skidding laterally—counterclockwise rotation
 - (7) Other vehicle loss-of-control (specify): _____
 - (9) Precrash stability unknown

35. Pre-Impact Location 2
- (0) No driver present
 - (1) Stayed in original travel lane
 - (2) Stayed on roadway but left original travel lane
 - (3) Stayed on roadway, not known if left original travel lane
 - (4) Departed roadway
 - (5) Remained off roadway
 - (6) Returned to roadway
 - (7) Entered roadway
 - (9) Unknown

36. Accident Type 68
(Note: Applicable codes on back of this page)
- (00) No impact
Code the number of the diagram that best describes the accident circumstance
 - (98) Other accident type (specify): _____
 - (99) Unknown

STOP HERE IF GV07 DOES NOT EQUAL 01 - 49

| Category | Configuration | ACCIDENT TYPES (Includes Intent) | | | | |
|---|-----------------------------|---|---|---|--|---|
| I. Single Driver | A. Right Roadside Departure |  01 DRIVE OFF ROAD |  02 CONTROL/ TRACTION LOSS |  03 AVOID COLLISION WITH VEH., PED., ANIM. | 04 SPECIFICS OTHER | 05 SPECIFICS UNKNOWN |
| | B. Left Roadside Departure |  06 DRIVE OFF ROAD |  07 CONTROL/ TRACTION LOSS |  08 AVOID COLLISION WITH VEH., PED., ANIM. | 09 SPECIFICS OTHER | 10 SPECIFICS UNKNOWN |
| | C. Forward Impact |  11 PARKED-VEH. |  12 STA. OBJECT |  13 PEDESTRIAN/ ANIMAL |  14 END DEPARTURE | 15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN |
| II. Same Trafficway Same Direction | D. Rear-End |  20 STOPPED 21, 22, 23 |  22 SLOWER 25, 26, 27 |  24 DECEL. 28, 30, 31 |  26 SPECIFICS OTHER |  28 SPECIFICS UNKNOWN |
| | E. Forward Impact |  34 CONTROL/ TRACTION LOSS |  36 CONTROL/ TRACTION LOSS |  38 AVOID COLLISION WITH VEH. |  40 AVOID COLLISION WITH OBJECT | (EACH • 42) (EACH • 43) SPECIFICS OTHER SPECIFICS UNKNOWN |
| | F. Sideswipe Angle |  44 SPECIFICS OTHER |  46 SPECIFICS OTHER |  48 SPECIFICS OTHER |  50 SPECIFICS OTHER | (EACH • 49) SPECIFICS UNKNOWN |
| III. Same Trafficway Opposite Direction | G. Head-On |  50 LATERAL MOVE | (EACH • 52) SPECIFICS OTHER | (EACH • 53) SPECIFICS UNKNOWN | | |
| | H. Forward Impact |  54 CONTROL/ TRACTION LOSS |  56 CONTROL/ TRACTION LOSS |  58 AVOID COLLISION WITH VEH. |  60 AVOID COLLISION WITH OBJECT | (EACH • 62) (EACH • 63) SPECIFICS OTHER SPECIFICS UNKNOWN |
| | I. Sideswipe Angle |  64 LATERAL MOVE | (EACH • 66) SPECIFICS OTHER | (EACH • 67) SPECIFICS UNKNOWN | | |
| IV. Change Trafficway Vehicle Turning | J. Turn Across Path |  68 INITIAL OPPOSITE DIRECTIONS |  70 INITIAL SAME DIRECTIONS |  72 SPECIFICS OTHER | (EACH • 74) (EACH • 75) SPECIFICS OTHER SPECIFICS UNKNOWN | |
| | K. Turn Into Path |  76 TURN INTO SAME DIRECTION |  78 TURN INTO OPPOSITE DIRECTIONS |  80 SPECIFICS OTHER | (EACH • 84) (EACH • 85) SPECIFICS OTHER SPECIFICS UNKNOWN | |
| V. Intersecting Paths (Vehicle Damage) | L. Straight Paths |  86 SPECIFICS OTHER |  88 SPECIFICS OTHER | (EACH • 90) SPECIFICS OTHER | (EACH • 91) SPECIFICS UNKNOWN | |
| VI. Miscellaneous | M. Backing Etc. |  92 BACKING VEH. | 93 OTHER VEH. OR OBJECT | 96 Other Accident Type 99 Unknown Accident Type 00 No Impact | | |

OCCUPANT RELATED

37. Driver Presence in Vehicle 1
 (0) Driver not present
 (1) Driver present
 (9) Unknown
38. Number of Occupants This Vehicle 0 4
 (00-96) Code actual number of occupants for this vehicle
 (97) 97 or more
 (99) Unknown
39. Number of Occupant Forms Submitted 0 4

AIR BAG RELATED

40. Is this an AOPS Vehicle? 1
 (0) No (includes unknown)
 (1) Yes - researcher determined
 (2) VIN determined air bag system
 (3) VIN determined automatic (passive) belts
 (4) VIN determined air bag and automatic (passive) belts
41. Air Bag(s) Deployment, First Seat Frontal 6
 (0) Not equipped or not available
 (1) No air bags deployed
Single Air Bag Vehicle
 (2) Driver air bag deployed
 (3) Driver air bag, unknown if deployed
Multiple Air Bag Vehicle
 (4) Driver side only deployed
 (5) Passenger side only deployed
 (6) Driver and passenger side deployed
 (7) Driver and passenger side unknown if deployed
 (8) Air bag(s) deployed, details unknown
 (9) Unknown
42. Air Bag(s) Deployment, Other Than First Seat Frontal 0
 (0) Not equipped with an "other" air bag
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

Specify type of "other" air bag present: _____

VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight 1 9 1 0
 _____ Code weight to nearest 10 kilograms.
 (045) Less than 454 kilograms
 (612) 6,124 kilograms or more
 (999) Unknown
 _____ lbs X .4536 = _____ kgs

Source: _____

44. Vehicle Cargo Weight 0 0 0 0
 _____ Code weight to nearest 10 kilograms.
 (000) Less than 5 kilograms *Steno*
 (454) 4,536 kilograms or more
 (999) Unknown
 _____ lbs X .4536 = _____ kgs

Source: _____

ROLLOVER DATA

45. Rollover 0 0
 (00) No rollover (no overturning)
Rollover (primarily about the longitudinal axis)
 (01-16) Code the number of quarter turns Rollover, 17 or more quarter turns (specify): _____
 (98) Rollover--end-over-end (i.e., primarily about the lateral axis)
 (99) Rollover (overturn), details unknown
46. Rollover Initiation Type 0 0
 (00) No rollover
 (01) Trip-over
 (02) Flip-over
 (03) Turn-over
 (04) Climb-over
 (05) Fall-over
 (06) Bounce-over
 (07) Collision with another vehicle
 (08) Other rollover initiation type specify): _____
 (98) Rollover--end-over-end
 (99) Unknown rollover initiation type
47. Location of Rollover Initiation 0
 (0) No rollover
 (1) On roadway
 (2) On shoulder—paved
 (3) On shoulder—unpaved
 (4) On roadside or divided trafficway median
 (8) Rollover--end-over-end
 (9) Unknown
48. Rollover Initiation Object Contacted 0 0
 (Note: Applicable codes on back of page)
49. Location on Vehicle Where Initial Principal Tripping Force Is Applied 0
 (0) No rollover
 (1) Wheels/tires
 (2) Side plane
 (3) End plane
 (4) Undercarriage
 (5) Other location on vehicle (specify): _____
 (6) Non-contact rollover forces (specify): _____
 (8) Rollover--end-over-end
 (9) Unknown
50. Direction of Initial Roll 0
 (0) No rollover
 (1) Roll right - primarily about the longitudinal axis
 (2) Roll left - primarily about the longitudinal axis
 (8) Rollover--end-over-end
 (9) Unknown roll direction

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
(01-30) — Vehicle Number

Noncollision

- (31) Turn-over — fall-over
(32) No rollover impact initiation (end-over-end)
(34) Jackknife

Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
(42) Tree (> 10 cm in diameter)
(43) Shrubbery or bush
(44) Embankment

- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
(51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
(52) Pole or post (> 30 cm in diameter)
(53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic barrier (includes guardrail)
(specify): _____

- (57) Fence
(58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify): _____

- (69) Unknown fixed object _____

Collision with Nonfixed Object

- (70) Passenger car, light truck, van, or other vehicle not in-transport
(71) Medium/heavy truck or bus not in-transport
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(79) Object fell from vehicle in-transport
(88) Other nonfixed object (specify): _____

- (89) Unknown nonfixed object _____

- (98) Other event (specify): _____

- (99) Unknown event or object _____

OVERRIDE/UNDERRIDE (THIS VEHICLE)

51. Front Override/Underride (this Vehicle) 0
52. Rear Override/Underride (this Vehicle) 0
- (0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride

*Override (see specific CDC)**[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]*

- (1) 1st CDC
- (2) 2nd CDC
- (3) Other not automated CDC (specify):
- _____

*Underride (see specific CDC)**[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]*

- (4) 1st CDC
- (5) 2nd CDC
- (6) Other not automated CDC (specify):
- _____

- (7) Medium/heavy truck or bus override (of any configuration)
- (9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value

(996) Non-horizontal impact

(997) Noncollision

(998) Impact with object

(999) Unknown

53. Heading Angle For This Vehicle 1 6 3
54. Heading Angle For Other Vehicle 0 0 5

RECONSTRUCTION DATA

55. Towed Trailing Unit 0
- (0) No towed unit
- (1) Yes—towed trailing unit
- (9) Unknown
56. Documentation of Trajectory Data for This Vehicle 1
- (0) No
- (1) Yes
57. Post Collision Condition of Tree or Pole (For Highest Delta V) 0
- (0) Not collision (for highest delta V) with tree or pole
- (1) Not damaged
- (2) Cracked/sheared
- (3) Tilted <45 degrees
- (4) Tilted ≥45 degrees
- (5) Uprooted tree
- (6) Separated pole from base
- (7) Pole replaced
- (8) Other (specify):
- _____
- (9) Unknown

ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V

58. Basis for Total (Resultant) Delta V (highest) 0 2

(00) No vehicle inspection

Delta V Calculated

- (01) Reconstruction program-damage only routine
- (02) Reconstruction program-damage and trajectory routine
- (03) Missing vehicle algorithm

Delta V Not Calculated

- (04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

All vehicles within scope (CDC applicable) of reconstruction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.

- (05) Rollover
- (06) Other non-horizontal forces
- (07) Sideswipe type damage
- (08) Severe override
- (09) Yielding object
- (10) Overlapping damage
- (11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify):
- _____
- _____

(98) Other, (specify): _____

COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V Highest0 2 5

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
 (160) 159.5 kmph and above
 (999) Unknown

60. Longitudinal Component of Delta V Highest+ 0 0 2 4

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: _000 means greater than
 -0.5 kmph and less than +0.5 kmph)
 (±160) ±159.5 kmph and above
 (_999) Unknown

61. Lateral Component of Delta V Highest+ 0 0 0 6

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: _000 means greater than -0.5 kmph and
 less than +0.5 kmph)
 (±160) ±159.5 kmph and above
 (_999) Unknown

62. Energy Absorption Highest1 0 6 . 8 0 0106,756 Nearest 100 joules (highest)

_____ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)
 (9997) 999,650 joules or more
 (9999) Unknown

63. Impact Speed Highest0 0 9

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means
 less than 0.5 kmph)
 (160) 159.5 kmph and above
 (998) Trajectory algorithm not run
 (999) Unknown

DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program
Results (For Highest Delta V)

- (0) No reconstruction _____
 (1) Collision fits model — results appear reasonable
 (2) Collision fits model — results appear high
 (3) Collision fits model — results appear low
 (4) Borderline reconstruction — results appear reasonable

OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed Highest0 3 534.9 Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means
 less than 0.5 kmph)
 (160) 159.5 kmph and above
 (999) Unknown

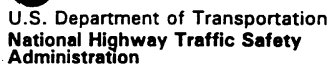
| ESTIMATED DELTA V | INSPECTION TYPE |
|---|--|
| <p>66. Estimated Highest Delta V (Researcher Determined) <u>0</u></p> <p>(0) Reconstruction Delta V coded</p> <p><i>Estimated Delta V</i></p> <p>(1) Less than 10 kmph</p> <p>(2) ≥ 10 kmph but < 25 kmph</p> <p>(3) ≥ 25 kmph but < 40 kmph</p> <p>(4) ≥ 40 kmph but < 55 kmph</p> <p>(5) ≥ 55 kmph</p> <p><i>Other estimates of damage severity</i></p> <p>(6) Minor</p> <p>(7) Moderate</p> <p>(8) Severe</p> <p>(9) Unknown</p> | <p>67. Type of Vehicle Inspection <u>1</u></p> <p>(0) No inspection</p> <p>(1) Vehicle fully repaired-no damage evident</p> <p>(2) Partial inspection (specify): _____</p> <p>(3) Complete inspection</p> |
| | <p>DELTA V EVENT NUMBER</p> <p>68. Delta V Event Number <u>1</u></p> <p>_____ Code the accident event sequence number that resulted in the Delta V that has been coded above for this vehicle</p> <p>(99) Unknown</p> |

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67 = 0), ***

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE ***

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.



**NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM**

[illegible]

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE

a. Rotation physically restricted b. Tire deflated

RF 2 RF 2
 LF 2 LF 2
 RR 2 RR 2
 LR 2 LR 2

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION

☐ Manual ☒ Automatic

END SHIFT \geq 10 CM

☐ Yes ☒ No

ORIGINAL SPECIFICATIONS

Wheelbase (108.7") 276.1 cm
 Overall Length (183.5") 466.1 cm
 Maximum Width (68.7") 174.5 cm
 Curb Weight (4,210 lb) 1,910 kg
 Average Track _____ cm
 Front Overhang (35.8") 90.9 cm
 Rear Overhang (39.0") 99.1 cm
 Undeformed End Width (63.0") 160 cm
 Engine Size: cyl./displ. 3.2 L

WHEEL STEER ANGLES
 (For locked front wheels or
 displaced rear axles only)

RF \pm _____ $^{\circ}$
 LF \pm _____ $^{\circ}$
 RR \pm _____ $^{\circ}$
 LR \pm _____ $^{\circ}$

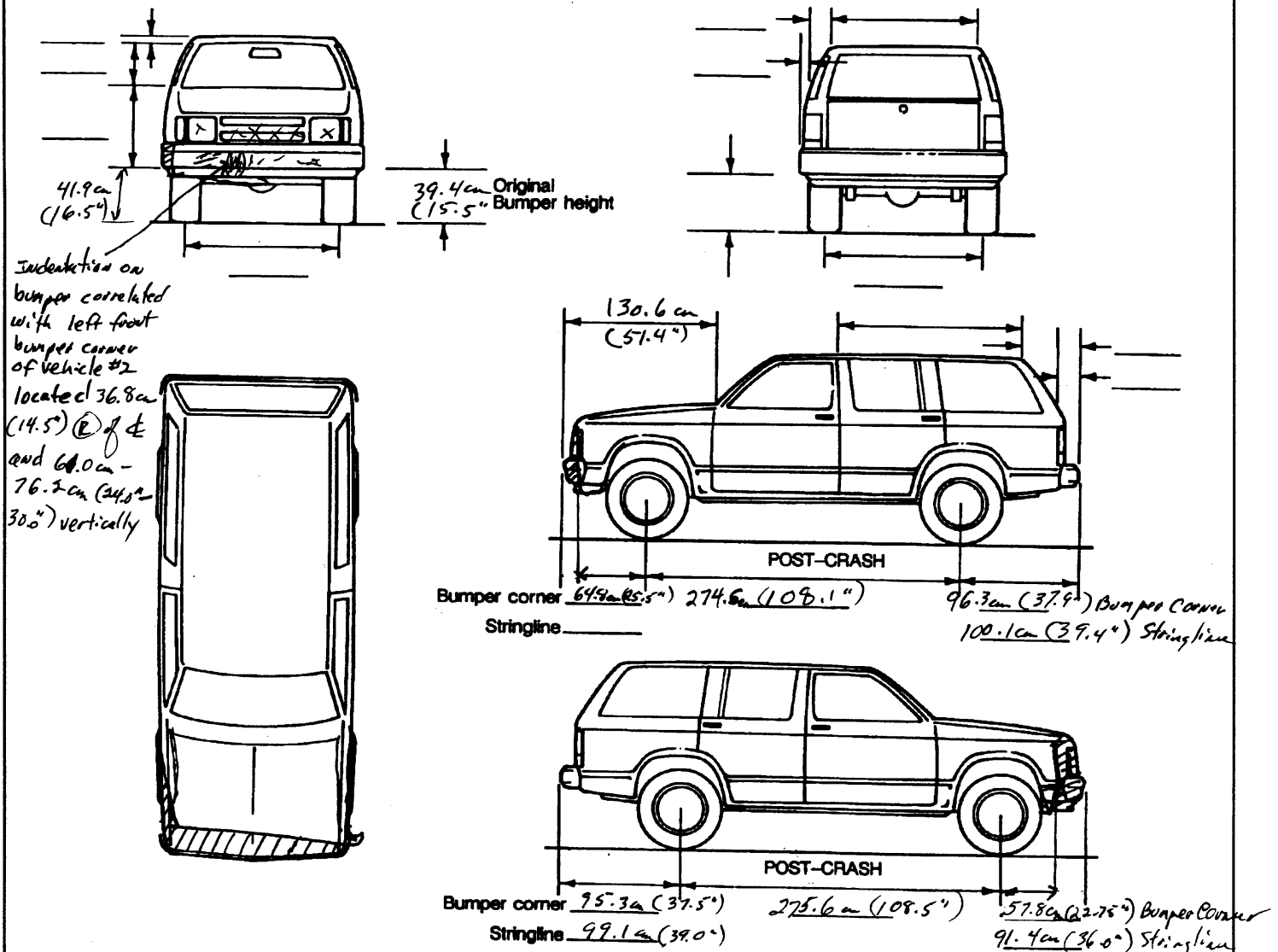
Within \pm 5 degrees

DRIVE WHEELS

☐ FWD ☐ RWD ☒ 4WD

Approximate
 Cargo Weight 2 5 trailers kg
*light weight
 (portables)*

MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CODES FOR OBJECT CONTACTED

(99) Unknown event or object

[illegible]

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

| Accident Event Sequence Number | Object Contacted | (1) (2) Direction of Force | (3) Deformation Location | (4) Longitudinal or Lateral Location | (5) Vertical or Lateral Location | (6) Type of Damage Distribution | (7) Deformation Extent |
|---|---------------------|----------------------------------|--------------------------------|---|---|--|------------------------------|
| 4. <u>01</u> | 5. <u>02</u> | 6. <u>01</u> | 7. <u>F</u> | 8. <u>D</u> | 9. <u>E</u> | 10. <u>W</u> | 11. <u>02</u> |

Second Highest Delta "V"

| | | | | | | | |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 12. <u> </u> | 13. <u> </u> | 14. <u> </u> | 15. <u> </u> | 16. <u> </u> | 17. <u> </u> | 18. <u> </u> | 19. <u> </u> |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

| | | | | | | | |
|--------------|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------|
| 20. <u>L</u> | 21. <u>C₁</u> | <u>C₂</u> | <u>C₃</u> | <u>C₄</u> | <u>C₅</u> | <u>C₆</u> | 22. <u>±D</u> |
| <u>160</u> | <u>010</u> | <u>009</u> | <u>011</u> | <u>013</u> | <u>013</u> | <u>010</u> | <u>⊕ 005</u> |

Second Highest Delta "V"

| | | | | | | | |
|--------------|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------|
| 23. <u>L</u> | 24. <u>C₁</u> | <u>C₂</u> | <u>C₃</u> | <u>C₄</u> | <u>C₅</u> | <u>C₆</u> | 25. <u>±D</u> |
| <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> |

26. Undeformed End Width

(Coded when highest severity impact is an end plane impact.)

 Code to the nearest centimeter

(250) 250 centimeters or more

(998) No highest severity end plane impact

(999) Unknown

160

28. Original Wheelbase

 Code to the nearest centimeter

(650) 650 centimeters or more

(999) Unknown

 inches X 2.54 = centimeters

276

29. Original Average Track Width

 Code to the nearest centimeter

(185) 185 centimeters or more

(999) Unknown

 inches X 2.54 = centimeters

999

27. Direct Damage Width

(For highest severity impact)

 Code to the nearest centimeter

(250) 250 centimeters or more

(999) Unknown

147

30. Are CDCs Documented
but Not Coded on The
Automated File?

- (0) No
(1) Yes

0

31. Researcher's Assessment of Vehicle
Disposition

- (0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

1

32. Is This A Multi-Stage Manufactured Vehicle
And/Or A Certified Altered Vehicle?

- (0) No post manufacturer modifications
(1) Yes - post manufacturer modifications
(specify): _____

0

(Include photograph of CERTIFICATION
PLACARD in case report)

- (9) Unknown if vehicle is modified

FIRE OCCURRENCE

33. Fire Occurrence

- (0) No fire

0

Yes, fire occurred

- (1) Minor
(2) Major
(9) Unknown

34. Origin of Fire

- (0) No fire
(1) Vehicle exterior (front, side, back, top)
(2) Exhaust system
(3) Fuel tank (and other fuel retention
system parts)
(4) Engine compartment
(5) Cargo/trunk compartment
(6) Instrument panel
(7) Passenger compartment area
(8) Other location (specify): _____

0

- (9) Unknown

FUEL SYSTEM

35. Location of Fuel Tank-1 Filler Cap

3

36. Location of Fuel Tank-2 Filler Cap

0

- (0) No fuel tank

- (1) On back plane

- (2) Aft of center of the rear wheels (rear axle)
on left side plane

- (3) Aft of center of the rear wheels (rear axle)
on right side plane

- (4) Forward of center of the rear wheels (rear
axle) on left side plane

- (5) Forward of center of the rear wheels (rear
axle) on right side plane

- (6) Over the center of the rear wheels (rear
axle) on left side plane

- (7) Over the center of the rear wheels (rear
axle) on right side plane

- (8) Other (specify): _____

- (9) Unknown

37. Type of Fuel Tank-1

1

38. Type of Fuel Tank-2

0

- (0) No fuel tank (electrical vehicle)

- (1) Metallic

- (2) Non-metallic

- (9) Unknown

39. Location of Fuel Tank-1

1

40. Location of Fuel Tank-2

0

- (0) No fuel tank

- (1) Aft of center of the rear wheels (rear axle)
centered

- (2) Aft of center of the rear wheels (rear axle)
left side

- (3) Aft of center of the rear wheels (rear axle)
right side

- (4) Forward of center of the rear wheels (rear
axle) centered

- (5) Forward of center of the rear wheels (rear
axle) left side

- (6) Forward of center of the rear wheels (rear
axle) right side

- (7) Over center of the rear wheels (rear axle)

- (8) Other (specify): _____

- (9) Unknown

41. Damage to Fuel Tank-1

1

42. Damage to Fuel Tank-2

0

- (0) No fuel tank

- (1) No damage to fuel tank

- (2) Deformed, no seam failure

- (3) Deformed, with a seam failure

- (4) Punctured

- (5) Lacerated (ripped)

- (6) Abraded (scraped)

- (7) Filler neck separation from the fuel tank

- (8) Other damage (specify): _____

- (9) Unknown

43. Leakage Location of Fuel System-1 144. Leakage Location of Fuel System-2 0

(0) No fuel tank

(1) No fuel leakage

Primary Area Of Leakage

(2) Tank

(3) Filler neck

(4) Cap

(5) Lines/pump/filter

(6) Vent/emission recovery

(8) Other (specify): _____

(9) Unknown

45. Fuel Type-1 0 146. Fuel Type-2 0 0*Single Fuel Type*

(00) No fuel tank

(01) Gasoline

(02) Diesel

(03) CNG (Compressed Natural Gas)

(04) LPG (Liquid Petroleum Gas) also known as Propane

(05) LNG (Liquid Natural Gas)

(06) Methanol (M100 or M85)

(07) Ethanol (E100 or E85)

(08) Other (Hydrogen or others) (specify): _____

Electric Powered or Electric/Solar Powered Vehicles

(10) Lead Acid Battery

(11) Nickel-Iron Battery

(12) Nickel-Cadmium Battery

(13) Sodium Metal Chloride Battery

(14) Sodium Sulfur Battery

(18) Other (Specify): _____

(98) Other Hybrid (specify): _____

(99) Unknown fuel type

47. Is This Vehicle Equipped With More Than Two Fuel Tanks? 0

(0) No (one or two tanks only)

Yes - More Than Two Tanks(1) Yes -- no damage to any tank or filler cap and no fuel system leakage(2) Yes -- no damage to any tank or filler cap but there is fuel system leakage (specify leakage location): _____(3) Yes -- damage to an additional tank or filler cap and there is fuel system leakage (specify the following):

Type of tank _____

Tank location _____

Filler cap location _____

Tank damage _____

Location of leakage _____

Type of fuel _____

(9) Unknown if more than two tanks

COMMENTS

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***

(GV10=0)

DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum 96-02

3. Vehicle Number 01

INTEGRITY

4. Passenger Compartment Integrity OV

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (back door)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window (backlight)

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window (side window and backlight)

(12) Windshield and side window

(13) Door and side window

(98) Other combination of above (specify):

(99) Unknown

Door, Tailgate or Hatch Opening

5. LF / 6. RF / 7. LR / 8. RR / 9. TG/H /

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code Ø

10. LF Ø 11. RF Ø 12. LR Ø 13. RR Ø 14. TG/H Ø

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage

(6) Latch/striker and hinge failure due to damage

(8) Other failure (specify):

(9) Unknown

GLAZING

Type of Window/Windshield Glazing

15. WS 1 16. LF 2 17. RF 2 18. LR 2 19. RR 2

20. BL 2 21. Roof Ø 22. Other 2

(0) No glazing

(1) AS-1 — Laminated

(2) AS-2 — Tempered

(3) AS-3 — Tempered-tinted (original)

(4) AS-2 — Tempered-with after market tint

(5) AS-3 — Tempered-tinted (with additional after market tint)

(6) AS-14 — Glass/Plastic

(7) Glazing removed prior to accident

(8) Other (specify):

(9) Unknown

Window Precrash Glazing Status

23. WS 1 24. LF 2 25. RF 2 26. LR 2 27. RR 2

28. BL 1 29. Roof Ø 30. Other 1

(0) No glazing

(1) Fixed

(2) Closed

(3) Partially opened

(4) Fully opened

(7) Glazing removed prior to accident

(9) Unknown

Glazing Damage from Impact Forces

31. WS 1 32. LF / 33. RF / 34. LR / 35. RR /

36. BL / 37. Roof Ø 38. Other 1

(0) No glazing

(1) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(9) Unknown if damaged

Glazing Damage from Occupant Contact

39. WS 1 40. LF / 41. RF / 42. LR / 43. RR /

44. BL / 45. Roof Ø 46. Other 1

(0) No glazing

(1) No occupant contact to glazing

(2) Glazing contacted by occupant but no glazing damage

(3) Glazing in place and cracked by occupant contact

(4) Glazing in place and holed by occupant contact

(5) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact

(6) Glazing out-of-place by occupant contact and holed by occupant contact

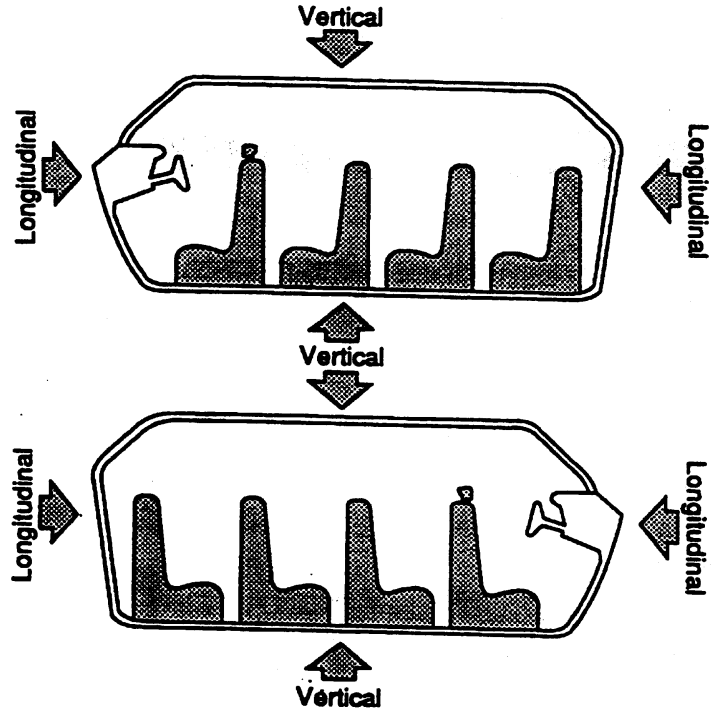
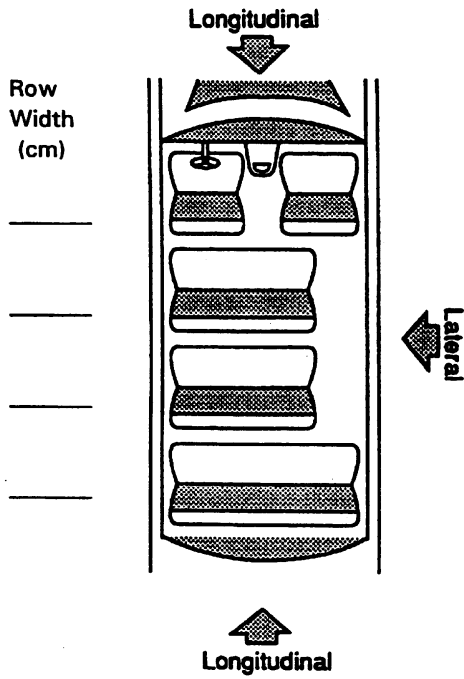
(7) Glazing removed prior to accident

(8) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

INTRUSION WORKSHEET

NOTE: SKETCH INTRUDED AREAS



| LOCATION OF INTRUSION | INTRUDED COMPONENT | (All Measurements Are In Centimeters) | | | DOMINANT CRUSH DIRECTION |
|-----------------------|--------------------|---------------------------------------|----------------|-----------|--------------------------|
| | | COMPARISON VALUE | INTRUDED VALUE | INTRUSION | |
| No | Intrusion | - | = | | |
| | | - | = | | |
| | | - | = | | |
| | | - | = | | |
| | | - | = | | |
| | | - | = | | |
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| | | - | = | | |
| | | - | = | | |
| | | - | = | | |
| | | - | = | | |
| | | - | = | | |

Document no more than the 15 most severe intrusions

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

INTRUDING COMPONENT

Interior Components

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Side panel - forward of the A1/A2-pillar
- (11) Door panel (side)
- (12) Side panel - rear of the B-pillar
- (13) Roof (or convertible top)
- (14) Roof side rail
- (15) Windshield
- (16) Windshield header
- (17) Window frame
- (18) Floor pan (includes sill)
- (19) Backlight header
- (20) Front seat back
- (21) Second seat back
- (22) Third seat back
- (23) Fourth seat back
- (24) Fifth seat back
- (25) Seat cushion
- (26) Back door/panel (e.g., tailgate)
- (27) Other interior component (specify): _____

Exterior Components

- (30) Hood
- (31) Outside surface of this vehicle (specify): _____
- (32) Other exterior object in the environment (specify): _____
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): _____
- (99) Unknown

LOCATION OF INTRUSION

Front Seat

- (11) Left
- (12) Middle
- (13) Right

Fourth Seat

- (41) Left
- (42) Middle
- (43) Right

Second Seat

- (21) Left
- (22) Middle
- (23) Right

- (97) Catastrophic
- (98) Other enclosed area (specify) _____

(99) Unknown

Third Seat

- (31) Left
- (32) Middle
- (33) Right

MAGNITUDE OF INTRUSION

- (1) ≥ 3 centimeters but < 8 centimeters
- (2) ≥ 8 centimeters but < 15 centimeters
- (3) ≥ 15 centimeters but < 30 centimeters
- (4) ≥ 30 centimeters but < 46 centimeters
- (5) ≥ 46 centimeters but < 61 centimeters
- (6) ≥ 61 centimeters
- (7) Catastrophic
- (9) Unknown

DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

| | Location of Intrusion | Intruding Component | Magnitude of Intrusion | Dominant Crush Direction |
|------|-------------------------|---------------------|------------------------|--------------------------|
| 1st | 47. <u>No Intrusion</u> | 48. _____ | 49. _____ | 50. _____ |
| 2nd | 51. _____ | 52. _____ | 53. _____ | 54. _____ |
| 3rd | 55. _____ | 56. _____ | 57. _____ | 58. _____ |
| 4th | 59. _____ | 60. _____ | 61. _____ | 62. _____ |
| 5th | 63. _____ | 64. _____ | 65. _____ | 66. _____ |
| 6th | 67. _____ | 68. _____ | 69. _____ | 70. _____ |
| 7th | 71. _____ | 72. _____ | 73. _____ | 74. _____ |
| 8th | 75. _____ | 76. _____ | 77. _____ | 78. _____ |
| 9th | 79. _____ | 80. _____ | 81. _____ | 82. _____ |
| 10th | 83. _____ | 84. _____ | 85. _____ | 86. _____ |

STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

| COMPARISON VALUE | — | DAMAGE VALUE | = | DEFORMATION |
|------------------|---|--------------|---|-------------|
|------------------|---|--------------|---|-------------|

| | | | | |
|---------------------|---|--|---|--|
| <i>Not deformed</i> | — | | = | |
| | — | | = | |
| | — | | = | |
| | — | | = | |

STEERING COLUMN

INSTRUMENT PANEL

87. Steering Column Type 2

- (1) Fixed column
 (2) Tilt column
 (3) Telescoping column
 (4) Tilt and telescoping column
 (8) Other column type (specify): _____

(9) Unknown

88. Tilt Steering Column Adjustment 3

- (0) No tilt steering column
 (1) Full up
 (2) Between full up and center
 (3) Center
 (4) Between center and full down
 (5) Full down
 (9) Unknown

89. Telescoping Steering Column Adjustment 0

- (0) No telescoping steering column
 (1) Full back
 (2) Between full back and midpoint
 (3) Midpoint
 (4) Between midpoint and full forward
 (5) Full forward
 (9) Unknown

90. Steering Rim/Spoke Deformation 00

Code actual measured

- deformation to the nearest centimeter
 (00) No steering rim deformation
 (01-14) Actual measured value in centimeters
 (15) 15 centimeters or more
 (98) Observed deformation cannot be measured
 (99) Unknown

91. Location of Steering Rim/Spoke Deformation 00

- (00) No steering rim deformation

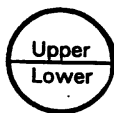
Quarter Sections

- (01) Section A
 (02) Section B
 (03) Section C
 (04) Section D



Half Sections

- (05) Upper half of rim/spoke
 (06) Lower half of rim/spoke
 (07) Left half of rim/spoke
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse
 (10) Undetermined location
 (99) Unknown

92. Odometer Reading 8,000

_____ kilometers

Code to the nearest 1,000 kilometers

(000) No odometer

(001) Less than 1,500 kilometers

(500) 499,500 kilometers or more

(999) Unknown

5261 miles X 1.6093 = 8467 kilometers

Source: _____

93. Instrument Panel Damage from Occupant Contact? 0

(0) No

(1) Yes

(9) Unknown

94. Type of Knee Bolster Covering 2

(0) No knee bolster

(1) Padded

(2) Rigid plastic

(8) Other (specify): _____

(9) Unknown

95. Knee Bolsters Deformed from Occupant Contact? 1

(0) No knee bolster

(1) No deformation

(2) Yes - deformation

(9) Unknown

96. Did Glove Compartment Door Open During Collision(s)? 2

(0) No glove compartment door

(1) No - door did not open

(2) Yes - door opened

(9) Unknown

97. Adaptive (Assistive) Driving Equipment 0

(0) No adaptive driving equipment

(1) Adaptive driving equipment installed

(Check all that apply.)

☐ Hand controls for braking/acceleration

☐ Steering control devices (attached to OEM steering wheel)

☐ Steering knob attached to steering wheel

☐ Low effort power steering (unit or device)

☐ Replacement steering wheel (i.e., reduced diameter)

☐ Joy-stick steering controls

☐ Wheelchair tie-downs

☐ Modification to seat belts (specify): _____

☐ Additional or relocated switches (specify): _____

☐ Raised roof

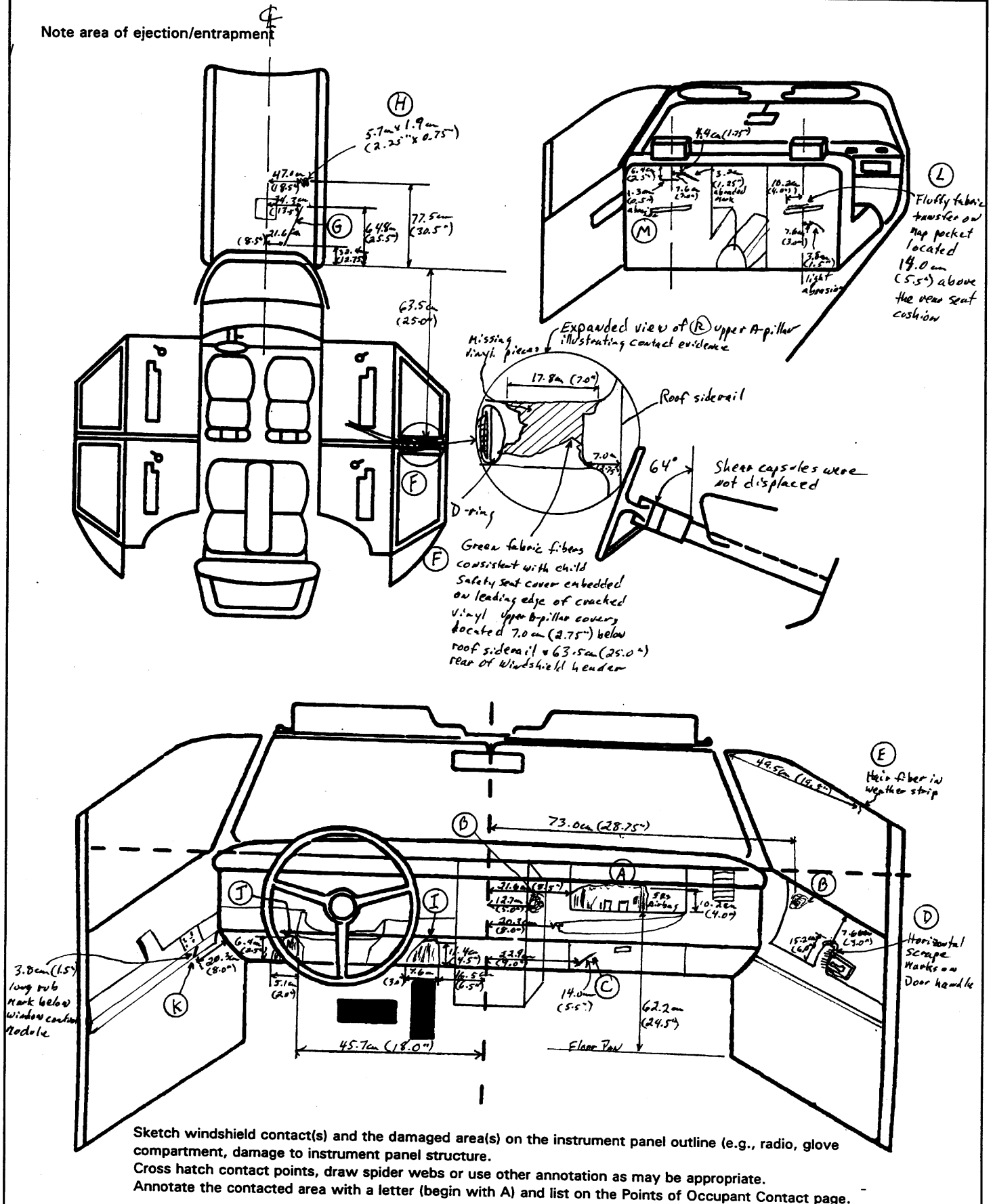
☐ Wall-mounted head rest (used behind wheelchair)

☐ Other adaptive device (specify): _____

(9) Unknown

VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).
 Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.
 Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

| Contact | Interior Component Contacted | Occupant No. If Known | Body Region If Known | Supporting Physical Evidence | Confidence Level of Contact Point |
|---------|------------------------------|-----------------------|----------------------|--|-----------------------------------|
| A | 185 | 2 | Child safety seat | Scrapes & embedded plastic material in cover from child safety seat | 1 |
| B | 011/101 | 2 | Air bag Residue | Areas of passenger side air bag general residue that align with exhaust ports | 1 |
| C | 013 | 2 | Child safety seat | Scrape on surface measuring 8.0 cm (5.5") in length | 2 |
| D | 102 | 2 | Child safety seat | Horizontal scrape marks on door grab handle | 1 |
| E | 204 | 2 | Head | Hair fiber stuck in weather strip adjacent to roof rail | 2 |
| F | 104 | 2 | Child safety seat | Plastic covering over upper B-pillar cracked with pieces missing. Green fabric fibers consistent w/ child safety seat covering were embedded on leading edge of the cracked vinyl. | 1 |
| G | 205 | 2 | Child safety seat | Linear scrape in DAF fabric measuring 32.9 cm (12.75") in length | 2 |
| H | 205 | 2 | Child safety seat | Concentrated abraded area in roof fabric measuring 5.7 cm x 1.9 cm (2.25" x 0.75") | 2 |
| I | 014 | 1 | R knee | Scuff mark | 1 |
| J | 014 | 1 | L knee | Scuff mark | 1 |
| K | 052 | 1 | R thigh | rub mark below windshield control module | 2 |
| L | 151 | 4 | Upper torso | Fluffy fabric transfer on upper edge of map pocket | 1 |
| M | 151 | 3 | Upper torso | Abrasions on upper area of seat back rest | 1 |
| N | | | | | |

FRONT

- (001) Windshield
 (002) Mirror
 (003) Sunvisor
 (004) Steering wheel rim
 (005) Steering wheel hub/spoke
 (006) Steering wheel (combination of codes 004 and 005)
 (007) Steering column, transmission selector lever, other attachment
 (008) Cellular telephone or CB radio
 (009) Add on equipment (e.g., tape deck, air conditioner)
 (010) Left instrument panel and below
 (011) Center instrument panel and below
 (012) Right instrument panel and below
 (013) Glove compartment door
 (014) Knee bolster
 (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
 (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
 (017) Windshield reinforced by exterior object. (specify):
 (019) Other front object (specify):

CODES FOR INTERIOR COMPONENTS

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
 (052) Left side hardware or armrest
 (053) Left A (A1/A2)-pillar
 (054) Left B-pillar
 (055) Other left pillar (specify):
 (056) Left side window glass
 (057) Left side window frame
 (058) Left side window sill
 (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (060) Other left side object (specify):

RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests
 (102) Right side hardware or armrest
 (103) Right A (A1/A2)-pillar
 (104) Right B-pillar
 (105) Other right pillar (specify):
 (106) Right side window glass
 (107) Right side window frame
 (108) Right side window sill
 (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (110) Other right side object (specify):

INTERIOR

- (151) Seat, back support
 (152) Belt restraint webbing/buckle
 (153) Belt restraint B-pillar or door frame attachment point
 (154) Other restraint system component (specify):
 (155) Head restraint system
 (160) Other occupants (specify):
 (161) Interior loose objects
 (162) Child safety seat (specify):
 (163) Other interior object (specify):

AIR BAG

- (170) Air bag-driver side
 (175) Air bag compartment cover-driver side
 (180) Air bag-passenger side
 (185) Air bag compartment cover-passenger side
 (190) Other air bag (specify)
 (195) Other air bag compartment cover (specify)

ROOF

- (201) Front header
 (202) Rear header
 (203) Roof left side rail
 (204) Roof right side rail
 (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
 (252) Floor or console mounted transmission lever, including console
 (253) Parking brake handle
 (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
 (302) Backlight storage rack, door, etc.
 (303) Other rear object (specify):

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
 (402) Steering control devices (attached to OEM steering wheel)
 (403) Steering knob attached to steering wheel
 (405) Replacement steering wheel (i.e., reduced diameter)
 (406) Joy stick steering controls
 (407) Wheelchair tie-downs
 (408) Modification to seat belts, (specify):
 (409) Additional or relocated switches, (specify):
 (410) Raised roof
 (411) Wall mounted head rest (used behind wheel chair)
 (412) Other adaptive device (specify):

CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
 (2) Probable
 (3) Possible
 (9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page 11.

If the vehicle has automatic restraints available, encode the appropriate data on page 6.

| | | Left | Center | Right |
|--------|------------------------|------|--------|-------|
| FIRST | A-Availability | 4 | / | 4 |
| | B-Evidence of usage | 00 | | 04 |
| | C-Used in this crash? | 00 | | 04 |
| | D-Proper Use | 0 | | 7 |
| | E-Failure Modes | 0 | | |
| | F-Anchorage Adjustment | 1 | | 1 |
| SECOND | A-Availability | 4 | 3 | 4 |
| | B-Evidence of usage | 04 | 00 | 00 |
| | C-Used in this crash? | 00 | 00 | 00 |
| | D-Proper Use | 0 | 0 | 0 |
| | E-Failure Modes | 0 | 0 | 0 |
| | F-Anchorage Adjustment | 1 | 0 | 1 |
| OTHER | A-Availability | / | / | / |
| | B-Evidence of usage | | | |
| | C-Used in this crash? | | | |
| | D-Proper Use | | | |
| | E-Failure Modes | | | |
| | F-Anchorage Adjustment | | | |

A-Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

- (9) Unknown

B/C-Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown
- (08) Other belt used (specify):
- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

D-Proper Use of Manual (Active) Belts

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): *Belt was placed on top of child safety seat arm rests and not secured (routed) through the infant position belt path slots. A belt locking "H" clip was not used.*
- (8) Other improper use of manual belt system (specify):

- (9) Unknown

F-Shoulder Belt Upper Anchorage Adjustment

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

E-Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other manual belt failure (specify):
- (9) Unknown

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

| | | Frontal Air Bags--Left Front | Frontal Air Bags-Right Front | Other Air Bag |
|-----------------------|-----------------------|------------------------------|------------------------------|---------------|
| F I R S T | Availability/Function | / | / | 0 |
| | Deployment | / | / | 0 |
| | Failure | / | / | 0 |
| | | | | |

Air Bag System Availability/Function

- (0) Not equipped/not available
(1) Air bag

Non-functional

- (2) Air bag disconnected (specify):
(3) Air bag not reinstalled
(9) Unknown

Air Bag System Deployment
(This Occupant Position)

- (0) Not equipped/not available
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, accident sequence undetermined
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Are There Indications of Air Bag System Failure? (This Occupant Position)

- (0) Not equipped/not available
(1) No
(2) Yes (specify):
(9) Unknown

AUTOMATIC BELTS

| | | Left | Right |
|-----------------------|-------------------------|------|-------|
| F I R S T | A-Availability/Function | / | / |
| | B-Use | / | / |
| | C-Type | / | / |
| | D-Proper Use | / | / |
| | E-Failure Modes | / | / |

A-Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
(9) Unknown

B-Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)
(3) Automatic belt use unknown
(9) Unknown

C-Automatic (Passive) Belt System Type

- (0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

D-Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or

automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):
(9) Unknown

E-Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):
(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify):
(9) Unknown

FIRST SEAT FRONTAL AIR BAGS

NOTES: Encode the applicable data *for the driver and first seat passenger* in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

| | Driver | Passenger |
|-----------------------------------|---------|--|
| A-Type of air bag? | 1 | 1 |
| B-Flaps open at tear points? | 2 | 2 |
| C-Flaps damaged? | 1 | 2 - Cover exhibited scuffs or puncture marks. Flap contact with the back surface of the child safety seat. |
| D-Air bag damaged? | 01 | 01 |
| E-Source of air bag damage | 01 | 01 |
| F-Air bag tethered? | 2 - (2) | 1 |
| G-Air bag have vent ports? | 2 - (2) | 2 - (2) |
| H-Other occupant contact air bag? | 1 | 1 |
| I-Occupant wearing eyewear? | 9 | 1 |

A-Type of Air Bag

- (0) Not equipped/not available
- (1) Original manufacturer installed system
- (2) Retrofitted air bag
- (3) Replacement air bag
- (8) Unknown type of air bag
- (9) Unknown

B-Did Air Bag Module Cover Flap(s) Open At Designated Tear Points?

- (0) Not equipped/not available
- (1) No
- (2) Yes
- (3) Deployed, unknown if flap(s) opened at designated tear points
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

C-Were Air Bag Module Cover Flap(s) Damaged?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if air bag module cover flap(s) damaged
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

D-Was There Damage To The Air Bag?

- (00) Not equipped/not available
- (01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
- (03) Cut
- (04) Torn
- (05) Holed
- (06) Burned
- (07) Abraded
- (88) Other damage (specify):

- (95) Damaged, details unknown
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

E-Source of Air Bag Damage

- (00) Not equipped/not available
- (01) Not damaged
- (02) Object worn by occupant, (specify):
- (03) Object carried by occupant, (specify):
- (04) Adaptive/assistive controls, (specify):
- (05) Fire in vehicle
- (06) Thermal burns
- (07) Rescue or emergency efforts
- (88) Other damage source (specify):
- (95) Damaged, unknown source
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

F-Was The Air Bag Tethered?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of tether straps):
- (3) Deployed, unknown if tethered
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

G-Did The Air Bag Have Vent Ports?

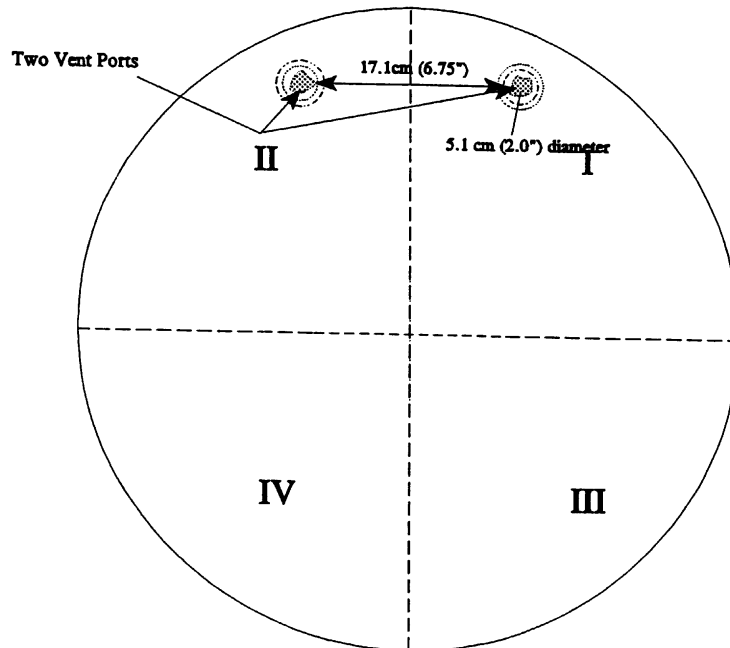
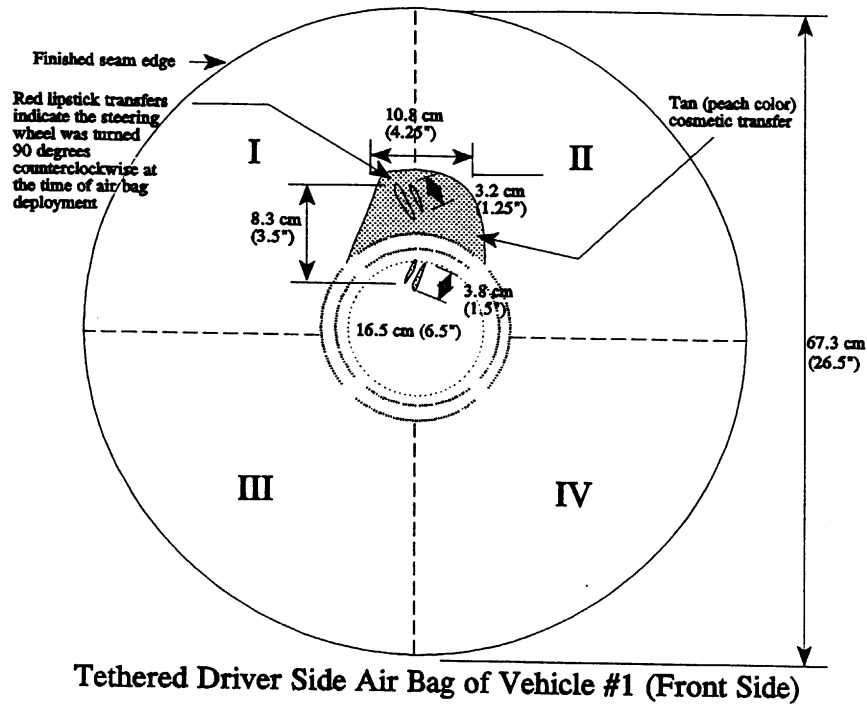
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of vent ports):
- (3) Deployed, unknown if vent ports present
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

H-Was the Air Bag in this Occupant's Position Contacted by Another Occupant?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if other occupant contact to air bag
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

I-Was This Occupant Wearing Eye-wear?

- (0) Not equipped/not available
- (1) No
- (2) Eyeglasses/sunglasses
- (3) Contact lenses
- (4) Deployed, unknown if eyewear worn
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

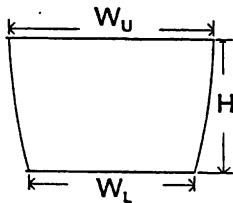


DRIVER AIR BAG SKETCHES (Cont'd)

3. DRIVER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W_U) _____ width (W_L) _____

height (H) _____



4. DRIVER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

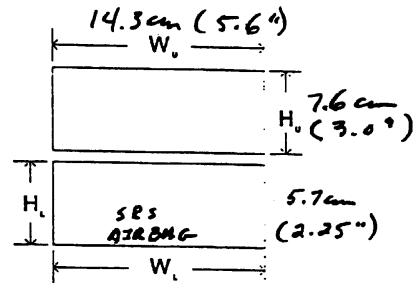
a. Upper Flap

b. Lower Flap

width (W_U) _____ width (W_L) _____

height (H_U) _____ height (H_L) _____

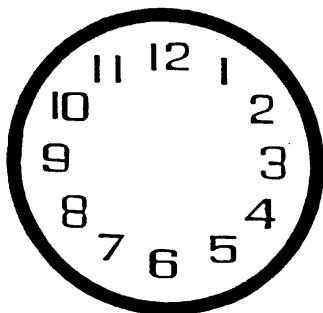
*No
Contact
Evidence
Visible*



5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

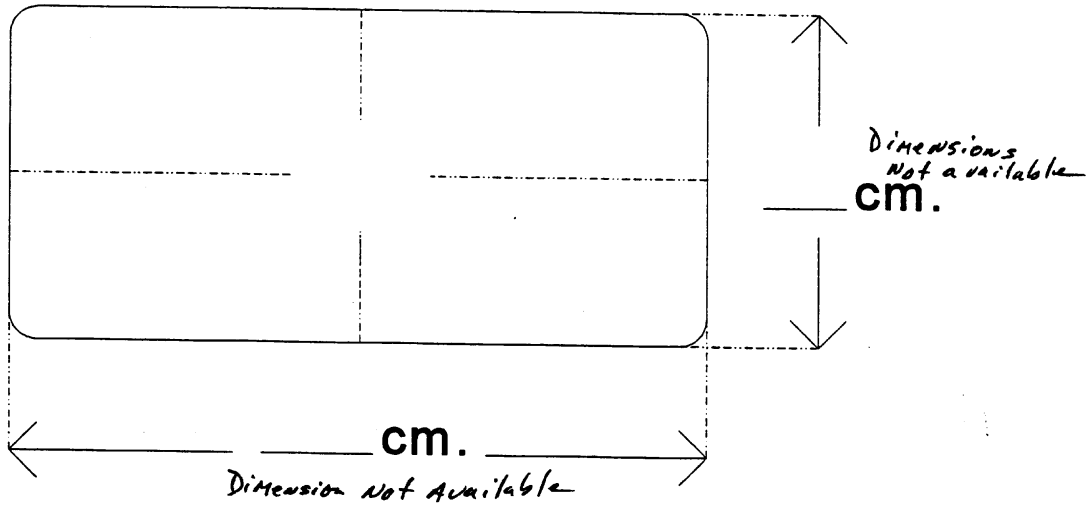
7. SKETCH LOCATION OF CIRCULAR AIR BAG VENT PORTS



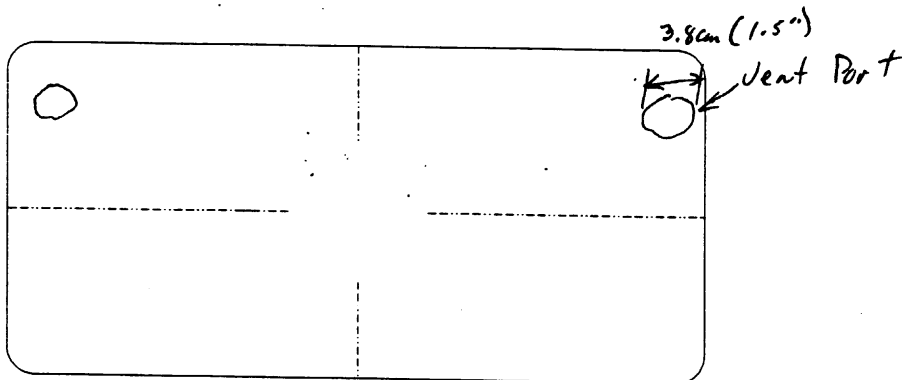
PASSENGER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Front)

no visible contact damage noted on Air bag



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Back)

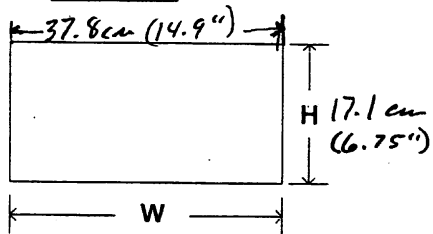


PASSENGER AIR BAG SKETCHES (Cont'd)

3. PASSENGER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W) _____

height (H) _____



See Attached page for detailed description of contact evidence

4. PASSENGER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

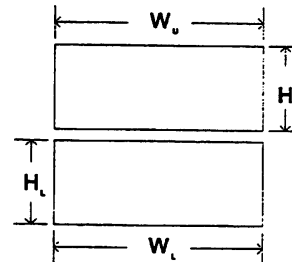
b. Lower Flap

width (W_U) _____

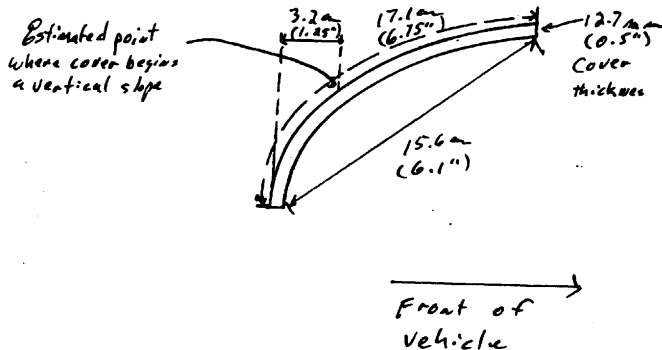
width (W_L) _____

height (H_U) _____

height (H_L) _____

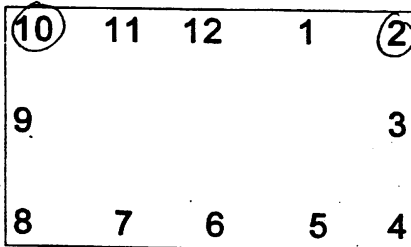


5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

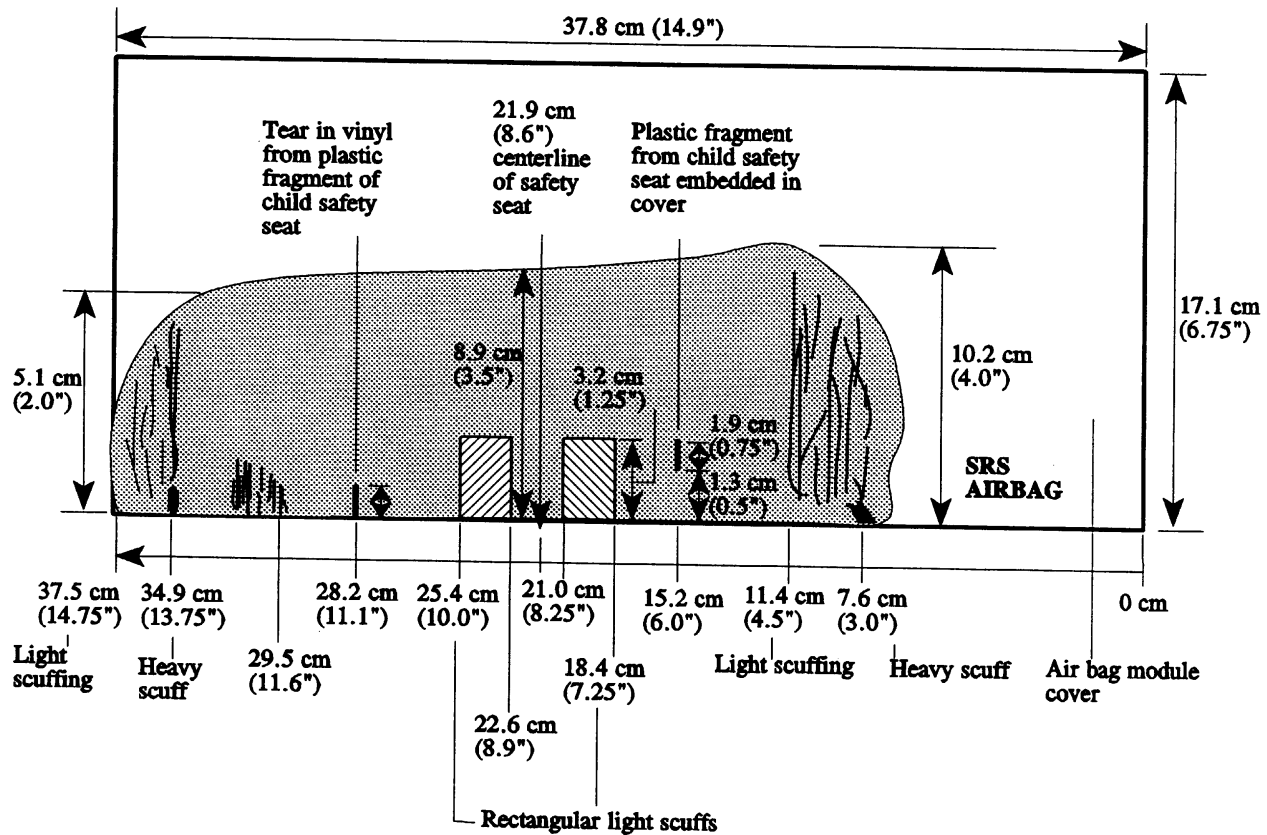


6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF RECTANGULAR AIR BAG VENT PORTS



Contact Evidence On Surface Of Passenger Side Air Bag Cover



Imprint of the upper rear surface of the child safety seat is noted by the outline shown in the above sketch. There were two punctures of the air bag module cover which correlated with the two plastic tabs located 4.4 cm (1.75") below the top of the child safety seat and 6.4 cm (2.5") from the centerline of the seat. The right edge of the safety seat was located 34.9 cm (13.75") from the right edge of edge of the cover.

"OTHER" AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Front)

2. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Back)

"OTHER" AIR BAG SKETCHES (Cont'd)

3. SKETCH AIR BAG MODULE FLAP AND SIZE OR OPENING FOR AIRBAG

4. SKETCH AIR BAG VENT PORTS

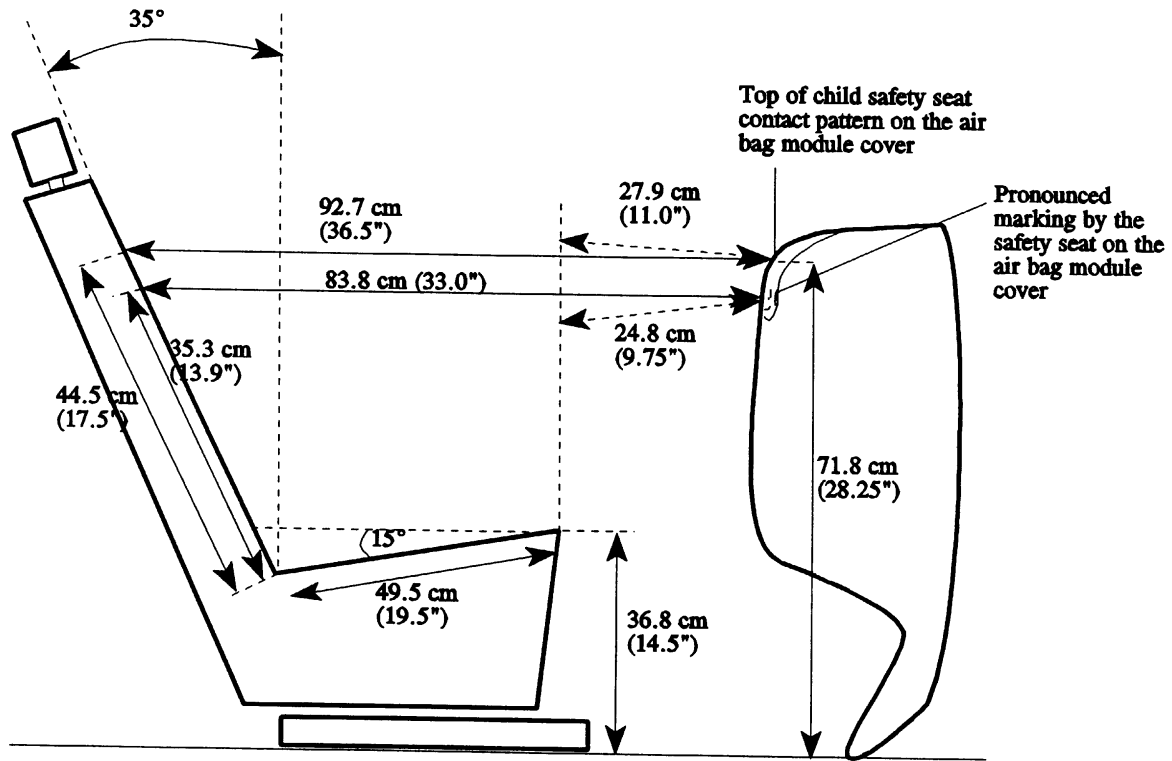
HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

| | | Left | Center | Right |
|--------|-------------------------------------|-------------------|--------|-------------------------|
| FIRST | A-Head Restraint Type/Damage | 3 - Adjusted down | / | 3 Adjusted up - 1 notch |
| | B-Seat Type | 09 | / | 09 |
| | C-Seat Orientation | 1 | / | 1 |
| | D-Seat Track Position | 5 | / | 6 |
| | E-Seat Back Incline Pre/Post Impact | 23 | / | 23 |
| | F-Seat Performance | 1 | / | 1 |
| SECOND | A-Head Restraint Type/Damage | 3 - Adjusted down | 0 | 3 - Adjusted down |
| | B-Seat Type | 04 | 04 | 04 |
| | C-Seat Orientation | 1 | 1 | 1 |
| | D-Seat Track Position | 1 | 1 | 1 |
| | E-Seat Back Incline Pre/Post Impact | 01 | 01 | 01 |
| | F-Seat Performance | 1 | 1 | 1 |
| THIRD | A-Head Restraint Type/Damage | / | / | / |
| | B-Seat Type | / | / | / |
| | C-Seat Orientation | / | / | / |
| | D-Seat Track Position | / | / | / |
| | E-Seat Back Incline Pre/Post Impact | / | / | / |
| | F-Seat Performance | / | / | / |
| OTHER | A-Head Restraint Type/Damage | / | / | / |
| | B-Seat Type | / | / | / |
| | C-Seat Orientation | / | / | / |
| | D-Seat Track Position | / | / | / |
| | E-Seat Back Incline Pre/Post Impact | / | / | / |
| | F-Seat Performance | / | / | / |

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE
(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

Right Front Passenger Seat Longitudinal Location With Respect To The Air Bag Module Cover



The seat was in the full rear adjusted position at the time of the inspection which appeared consistent with the position noted in on-scene police photographs. The seat track had an adjustment range of 18.0 cm (7.1"). When the seat was adjusted on the seat track to the specifications of the FVMSS 208 test, the seat back rest measured a horizontal distance of 64.8 cm (25.5") to the air bag module cover and 82.6 cm (32.5") to the rear seat cushion.

HEAD RESTRAINTS/SEAT EVALUATION

A-Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other (specify): _____
- (9) Unknown

B-Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Box mounted seat (i.e., van type)
- (10) Other seat type (specify): _____
- (99) Unknown

C-Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): _____
- (9) Unknown

D-Seat Track Adjusted Position Prior To Impact

- (0) Occupant not seated or no seat
- (1) Non-adjustable seat track
- Adjustable Seat Track**
- (2) Seat at forward most track position
- (3) Seat between forward most and middle track positions
- (4) Seat at middle track position
- (5) Seat between middle and rear most track positions
- (6) Seat at rear most track position
- (9) Unknown

E-Seat Back Incline Prior and Post Impact

- (00) Occupant not seated or no seat
- (01) Not adjustable

Upright prior to impact

- (11) Moved to completely rearward position
- (12) Moved to rearward midrange position
- (13) Moved to slightly rearward position
- (14) Retained pre-impact position
- (15) Moved to slightly forward position
- (16) Moved to forward midrange position
- (17) Moved to completely forward position

Slightly reclined prior to impact

- (21) Moved to completely rearward position
- (22) Moved to rearward midrange position
- (23) Retained pre-impact position
- (24) Moved to upright position
- (25) Moved to slightly forward position
- (26) Moved to forward midrange position
- (27) Moved to completely forward position

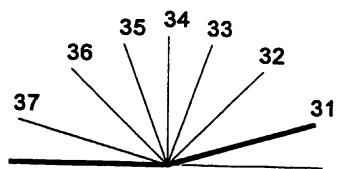
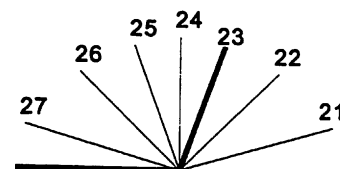
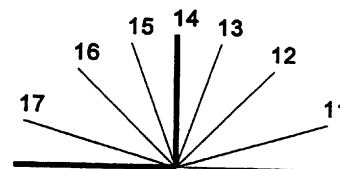
Completely reclined prior to impact

- (31) Retained pre-impact position
- (32) Moved to rearward midrange position
- (33) Moved to slightly rearward position
- (34) Moved to upright position
- (35) Moved to slightly forward position
- (36) Moved to forward midrange position
- (37) Moved to completely forward position

- (99) Unknown

F-Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): _____
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): _____
- (7) Combination of above (specify): _____
- (8) Other (specify): _____
- (9) Unknown

Coding diagrams for *Seat Back Incline Position Prior and Post Impact*

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

| | | | | | | |
|------------------------------------|--|--|--|--|--|--|
| Occupant Number | 02 | | | | | |
| 1. Type of Child Safety Seat | 3 | | | | | |
| 2. Child Safety Seat Orientation | 01 | | | | | |
| 3. Child Safety Seat Harness Usage | 12 | | | | | |
| 4. Child Safety Seat Shield Usage | 12 | | | | | |
| 5. Child Safety Seat Tether Usage | 03 | | | | | |
| 6. Child Safety Seat Make/Model | Specify Below for Each Child Safety Seat | | | | | |

1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):

- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

- (29) Unknown orientation

- (99) Unknown if child safety seat used

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

- 5. Child Safety Seat Tether Usage
- Note: Options Below Are Used for Variables 3-5.
- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

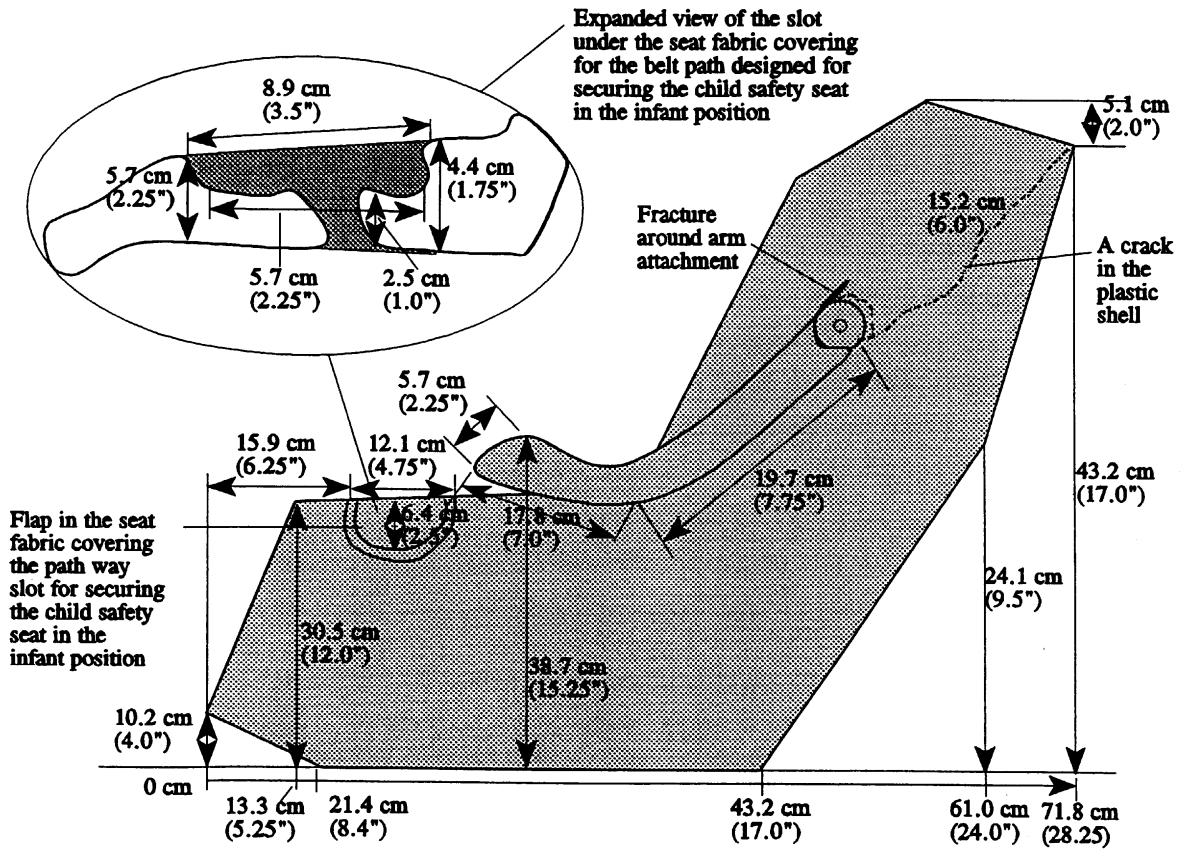
- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

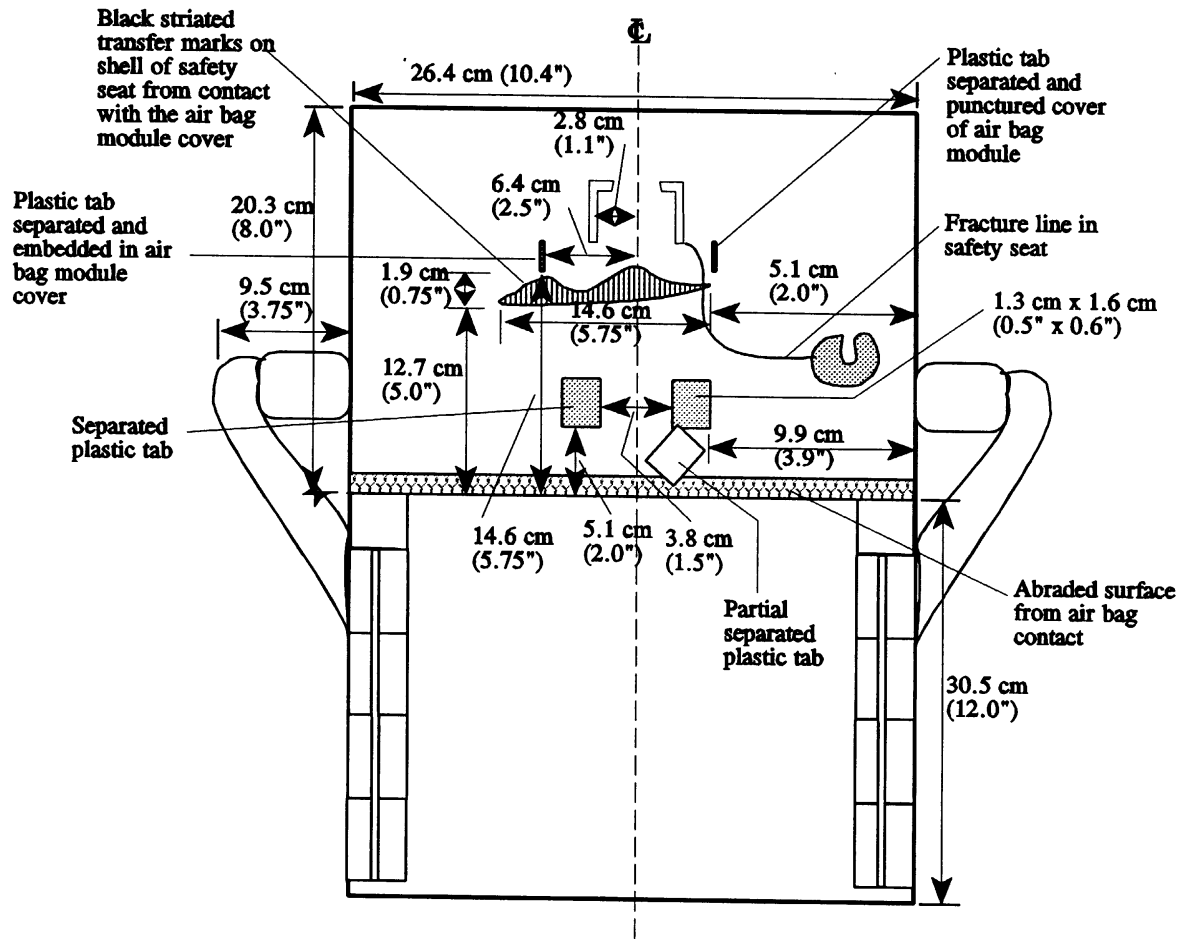
- 6. Child Safety Seat Make/Model
- (Specify make/model and occupant number)

Century 3500 STE Prestige

Profile of The



Contact Evidence On The Rear Surface of The Child Safety Seat



EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [☒] Yes []

Describe indications of ejection and body parts involved in partial ejection(s):

| | | | | | | |
|--|--|--|--|--|--|--|
| Occupant Number | | | | | | |
| Ejection | | | | | | |
| (Note on Vehicle Interior Sketch) Ejection Area | | | | | | |
| Ejection Medium | | | | | | |
| Medium Status | | | | | | |

Ejection

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

Ejection Area

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

(7) Roof

- (8) Other area (e.g., back of pickup, etc.) (specify):

- (9) Unknown

Ejection Medium

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

(5) Integral structure

- (8) Other medium (specify):

- (9) Unknown

Medium Status (Immediately Prior to Impact)

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

ENTRAPMENT No [☒] Yes []

Describe entrapment mechanism:

Component(s):

(Note on vehicle interior sketch)



OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum 76-02

3. Vehicle Number 01

4. Occupant Number 01

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 52

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex 2

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height 999

Code actual height to the nearest centimeter.

(999) Unknown

 inches X 2.54 = centimeters

8. Occupant's Weight 999

Code actual weight to the nearest kilogram.

(999) Unknown

 pounds X .4536 = kilograms

9. Occupant's Role 1

(1) Driver

(2) Passenger

(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position 11

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture 9

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front of seat

(8) Other abnormal posture (specify):

(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

0

13. Ejection Area

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)
(specify): _____
- (9) Unknown

0

14. Ejection Medium

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): _____
- (5) Integral structure
- (8) Other medium (specify): _____
- (9) Unknown

0

15. Medium Status (Immediately Prior To Impact)

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

0

16. Entrapment

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.
(specify): _____
- (9) Unknown

0

17. Occupant Mobility

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or not oriented to time or place
- (2) Removed from vehicle due to perceived serious injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (8) Removed from vehicle for other reasons
(specify): _____
- (9) Unknown

4

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify): _____

(9) Unknown _____

19. Manual (Active) Belt System Use 00

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): _____

- (02) Shoulder belt _____
- (03) Lap belt _____
- (04) Lap and shoulder belt _____
- (05) Belt used—type unknown _____
- (08) Other belt used (specify): _____

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify): _____
- (99) Unknown if belt used _____

20. Proper Use of Manual (Active) Belts 0

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): _____

(8) Other improper use of manual belt system (specify): _____

(9) Unknown _____

21. Manual (Active) Belt Failure Modes During Accident 0

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): _____

(6) Broken retractor _____

(7) Combination of above (specify): _____

(8) Other manual belt failure (specify): _____

(9) Unknown _____

22. Manual Shoulder Belt Upper Anchorage Adjustment 1

- (0) No manual shoulder belt
- (1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): _____
- (3) Automatic belt use unknown _____
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or

automatic shoulder belt used improperly with child safety seat (specify): _____

(8) Other improper use of automatic belt system (specify): _____

(9) Unknown _____

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): _____

(6) Broken retractor _____

(7) Combination of above (specify): _____

(8) Other automatic belt failure (specify): _____

(9) Unknown _____

POLICE REPORTED RESTRAINT USE

AIR BAG SYSTEM FUNCTION

28. Police Reported Belt Use 4

- (0) None used
 (1) Police did not indicate belt use
 (2) Shoulder belt
 (3) Lap belt
 (4) Lap and shoulder belt
 (5) Belt used, type not specified
 (6) Child safety seat
 (7) Automatic belt
 (8) Other type belt, (specify):

(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 2

- (0) No air bag available
 (1) Police did not indicate air bag availability/function
 (2) Deployed
 (3) Not deployed
 (4) Unknown if deployed
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☒ Vehicle inspection
☐ Official injury data
☐ Driver/occupant interview
☐ Other (specify):

☐ Unknown if belt used

30. Frontal Air Bag System 1

Availability/Function

(This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

(2) Air bag disconnected (specify):

(3) Air bag not reinstalled

(9) Unknown

31. Frontal Air Bag System Deployment 1

(This Occupant Position)

- (0) Not equipped/not available
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

32. Other Than First Seat Frontal Air Bag 0

Availability/Function

(This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

(2) Air bag disconnected (specify):

(3) Air bag not reinstalled

(9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First 0

Seat Frontal (This Occupant Position)

- (0) Not equipped with an "other" air bag
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

34. Are There Indications of Air Bag System 1

Failure?

(This Occupant Position)

- (0) Not equipped/not available
 (1) No
 (2) Yes (specify):

(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 9

- (0) Not equipped/not available
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 1

- (0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 9

- (0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify):
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 01

- (00) Not equipped/not available
Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 1

- (0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify):
(6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact + 024

- (_000) Not equipped/not available
Code the value of the delta V for the impact that initiated the air bag deployment
(_996) Deployment, unknown longitudinal Delta V
(_997) Not deployed
(_998) Unknown if deployed
(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2

- (0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 1

- (0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 01

- (00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify):
(95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM
EVALUATION *continued*

HEAD RESTRAINT AND SEAT EVALUATION

44. Source of Air Bag Damage 01
 (00) Not equipped/not available
 (01) Not damaged
 (02) Object worn by occupant, (specify):
 (03) Object carried by occupant, (specify):
 (04) Adaptive/assistive controls, (specify):
 (05) Fire in vehicle
 (06) Thermal burns
 (07) Rescue or emergency efforts
 (08) Other damage source (specify):
 (95) Damaged, unknown source
 (96) Deployed, unknown if damaged
 (97) Not deployed
 (98) Unknown if deployed
 (99) Unknown
45. Was The Air Bag Tethered? 2
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of tether straps):
 (3) Deployed, unknown if tethered
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
46. Did The Air Bag Have Vent Ports? 2
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of vent ports):
 (3) Deployed, unknown if vent ports present
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify):
 (3) Deployed, unknown if other occupant contact to air bag
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
48. Was This Occupant Wearing Eye-wear? 9
 (0) Not air bag equipped/air bag not available
 (1) No
 (2) Eyeglasses/sunglasses
 (3) Contact lenses
 (4) Deployed, unknown if eyewear worn
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown

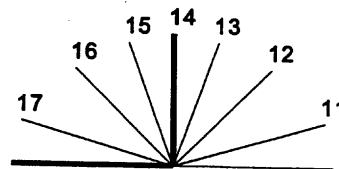
49. Head Restraint Type/Damage by Occupant at This Occupant Position 3
 (0) No head restraints
 (1) Integral—no damage
 (2) Integral—damaged during accident
 (3) Adjustable—no damage
 (4) Adjustable—damaged during accident
 (5) Add-on—no damage
 (6) Add-on—damaged during accident
 (8) Other (specify):
 (9) Unknown
50. Seat Type (this Occupant Position) 09
 (00) Occupant not seated or no seat
 (01) Bucket
 (02) Bucket with folding back
 (03) Bench
 (04) Bench with separate back cushions
 (05) Bench with folding back(s)
 (06) Split bench with separate back cushions
 (07) Split bench with folding back(s)
 (08) Pedestal (i.e., column supported)
 (09) Box mounted seat (i.e., van type)
 (10) Other seat type (specify):
 (99) Unknown
51. Seat Orientation (this Occupant Position) 1
 (0) Occupant not seated or no seat
 (1) Forward facing seat
 (2) Rear facing seat
 (3) Side facing seat (inward)
 (4) Side facing seat (outward)
 (8) Other (specify):
 (9) Unknown
52. Seat Track Adjusted Position Prior To Impact 5
 (0) Occupant not seated or no seat
 (1) Non-adjustable seat track
- Adjustable Seat Track*
 (2) Seat at forward most track position
 (3) Seat between forward most and middle track positions
 (4) Seat at middle track position
 (5) Seat between middle and rear most track positions
 (6) Seat at rear most track position
 (9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 23

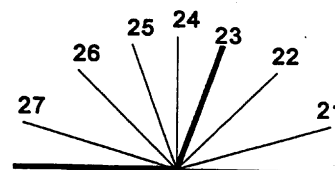
- (00) Occupant not seated or no seat
 (01) Not adjustable

Upright prior to impact

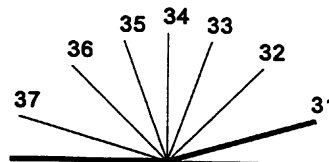
- (11) Moved to completely rearward position
 (12) Moved to rearward midrange position
 (13) Moved to slightly rearward position
 (14) Retained pre-impact position
 (15) Moved to slightly forward position
 (16) Moved to forward midrange position
 (17) Moved to completely forward position

***Slightly reclined prior to impact***

- (21) Moved to completely rearward position
 (22) Moved to rearward midrange position
 (23) Retained pre-impact position
 (24) Moved to upright position
 (25) Moved to slightly forward position
 (26) Moved to forward midrange position
 (27) Moved to completely forward position

***Completely reclined prior to impact***

- (31) Retained pre-impact position
 (32) Moved to rearward midrange position
 (33) Moved to slightly rearward position
 (34) Moved to upright position
 (35) Moved to slightly forward position
 (36) Moved to forward midrange position
 (37) Moved to completely forward position



(99) Unknown

54. Seat Performance (this Occupant Position) _____

- (0) Occupant not seated or no seat
 (1) No seat performance failure(s)
 (2) Seat adjusters failed
 (3) Seat back folding locks or "seat back" failed (specify): _____
 (4) Seat track/anchors failed
 (5) Deformed by impact of occupant
 (6) Deformed by passenger compartment intrusion, (specify): _____
 (7) Combination of above (specify): _____
 (8) Other (specify): _____
 (9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000
(000) No child safety seat
Applicable codes are found in your NASS CDS
Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):

(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 00
(00) No child safety seat

Designed for Rear Facing for This Age/Weight

(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight

(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to
Variables OA58-OA60.

(00) No child safety seat

Not Designed With Harness/Shield/Tether

(01) After market harness/shield/tether
added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market
harness/shield/tether added
(09) Unknown if harness/shield/tether
added or used

Designed With Harness/Shield/Tether

(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES**61. Injury Severity (Police Rating)** 1

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality 4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

Nonfatal

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):

- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

64. Hospital Stay 02

- (00) Not Hospitalized
- _____ Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

65. Working Days Lost 99

- _____ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

STOP WORK HERE**VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

TO BE CODED BY THE ZONE CENTER**INJURY CONSEQUENCES****66. Time to Death**

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Death**68. 2nd Medically Reported Cause of Death****69. 3rd Medically Reported Cause of Death**
Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

70. Number of Recorded Injuries for This Occupant

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

TRAUMA DATA**71. Glasgow Coma Scale (GCS) Score (at Medical Facility)**

- (00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood?

- (1) No - blood not given
(2) Yes - blood given

(specify units):
(9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO₃

- (00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO₃
(96) ABGs reported, HCO₃ unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION**74. Primary Source of Belt Use Determination**

- (0) Not equipped/not available/destroyed or rendered inoperative

- (1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):
(9) Unknown if belt used



OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum 96-02

3. Vehicle Number 01

4. Occupant Number 02

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 00

Code actual age at time of accident.

(00) Less than one year old (specify by month):

4 months

(97) 97 years and older

(99) Unknown

6. Occupant's Sex 1

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height 061

Code actual height to the nearest
centimeter.

(999) Unknown

 inches X 2.54 = centimeters

8. Occupant's Weight 009

Code actual weight to the nearest
kilogram.

(999) Unknown

 pounds X .4536 = kilograms

9. Occupant's Role 2

(1) Driver

(2) Passenger

(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position 13

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture 0

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with
another occupant or to look out a rear
window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in
front of seat

(8) Other abnormal posture (specify):

(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection 0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)
(specify): _____
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): _____
- (5) Integral structure
- (8) Other medium (specify): _____
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.
(specify): _____
- (9) Unknown

17. Occupant Mobility 1

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or not oriented to time or place
- (2) Removed from vehicle due to perceived serious injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (8) Removed from vehicle for other reasons
(specify): _____
- (9) Unknown

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 13

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

(02) Shoulder belt

(03) Lap belt

(04) Lap and shoulder belt

(05) Belt used—type unknown

(08) Other belt used (specify):

(12) Shoulder belt used with child safety seat

(13) Lap belt used with child safety seat

(14) Lap and shoulder belt used with child safety seat

(15) Belt used with child safety seat—type unknown

(18) Other belt used with child safety seat (specify):

(99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 7

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

(3) Shoulder belt worn under arm

(4) Shoulder belt worn behind back or seat

(5) Belt worn around more than one person

(6) Lap belt worn on abdomen

(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify): *lap belt placed over shoulder of seat & not threaded through belt pathway bracket*

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 1

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

22. Manual Shoulder Belt Upper Anchorage Adjustment 1

- (0) No manual shoulder belt
- (1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or

automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):
- (9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other automatic belt failure (specify):

(9) Unknown

POLICE REPORTED RESTRAINT USE

AIR BAG SYSTEM FUNCTION

28. Police Reported Belt Use 6

- (0) None used
 (1) Police did not indicate belt use
 (2) Shoulder belt
 (3) Lap belt
 (4) Lap and shoulder belt
 (5) Belt used, type not specified
 (6) Child safety seat
 (7) Automatic belt
 (8) Other type belt, (specify):

(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 2

- (0) No air bag available
 (1) Police did not indicate air bag availability/function
 (2) Deployed
 (3) Not deployed
 (4) Unknown if deployed
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☒ Vehicle inspection
☐ Official injury data
☐ Driver/occupant interview
☐ Other (specify):

☐ Unknown if belt used

30. Frontal Air Bag System Availability/Function (This Occupant Position) 1

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

(3) Air bag not reinstalled

(9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 1

- (0) Not equipped/not available
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

(3) Air bag not reinstalled

(9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

- (0) Not equipped with an "other" air bag
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 1

- (0) Not equipped/not available
 (1) No

- (2) Yes (specify):

(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 9

- (0) Not equipped/not available
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 1

- (0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 9

- (0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify):
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 01

- (00) Not equipped/not available
Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 1

- (0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify):
(6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact +0024

- (_000) Not equipped/not available
Code the value of the delta V for the impact that initiated the air bag deployment
(_996) Deployment, unknown longitudinal Delta V
(_997) Not deployed
(_998) Unknown if deployed
(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2

- (0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 2

- (0) Not equipped/not available
(1) No
(2) Yes (specify): See Report
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 01

- (00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify):
(95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM
EVALUATION *continued*

HEAD RESTRAINT AND SEAT EVALUATION

44. Source of Air Bag Damage 01
 (00) Not equipped/not available
 (01) Not damaged
 (02) Object worn by occupant, (specify):
 (03) Object carried by occupant, (specify):
 (04) Adaptive/assistive controls, (specify):
 (05) Fire in vehicle
 (06) Thermal burns
 (07) Rescue or emergency efforts
 (08) Other damage source (specify):
 (95) Damaged, unknown source
 (96) Deployed, unknown if damaged
 (97) Not deployed
 (98) Unknown if deployed
 (99) Unknown
45. Was The Air Bag Tethered? 1
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of tether straps):
 (3) Deployed, unknown if tethered
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
46. Did The Air Bag Have Vent Ports? 2
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of vent ports):
 (3) Deployed, unknown if vent ports present
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify):
 (3) Deployed, unknown if other occupant contact to air bag
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
48. Was This Occupant Wearing Eye-wear? 1
 (0) Not air bag equipped/air bag not available
 (1) No
 (2) Eyeglasses/sunglasses
 (3) Contact lenses
 (4) Deployed, unknown if eyewear worn
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown

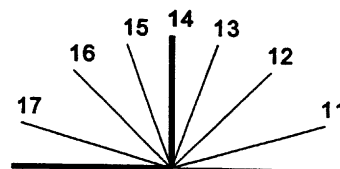
49. Head Restraint Type/Damage by Occupant at This Occupant Position 3
 (0) No head restraints
 (1) Integral—no damage
 (2) Integral—damaged during accident
 (3) Adjustable—no damage
 (4) Adjustable—damaged during accident
 (5) Add-on—no damage
 (6) Add-on—damaged during accident
 (8) Other (specify):
 (9) Unknown
50. Seat Type (this Occupant Position) 09
 (00) Occupant not seated or no seat
 (01) Bucket
 (02) Bucket with folding back
 (03) Bench
 (04) Bench with separate back cushions
 (05) Bench with folding back(s)
 (06) Split bench with separate back cushions
 (07) Split bench with folding back(s)
 (08) Pedestal (i.e., column supported)
 (09) Box mounted seat (i.e., van type)
 (10) Other seat type (specify):
 (99) Unknown
51. Seat Orientation (this Occupant Position) 1
 (0) Occupant not seated or no seat
 (1) Forward facing seat
 (2) Rear facing seat
 (3) Side facing seat (inward)
 (4) Side facing seat (outward)
 (8) Other (specify):
 (9) Unknown
52. Seat Track Adjusted Position Prior To Impact 6
 (0) Occupant not seated or no seat
 (1) Non-adjustable seat track
Adjustable Seat Track
 (2) Seat at forward most track position
 (3) Seat between forward most and middle track positions
 (4) Seat at middle track position
 (5) Seat between middle and rear most track positions
 (6) Seat at rear most track position
 (9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*

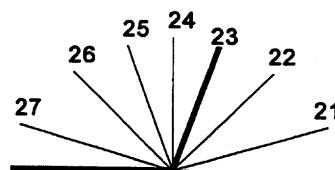
53. Seat Back Incline Prior and Post Impact 2 3
 (00) Occupant not seated or no seat
 (01) Not adjustable

Upright prior to impact

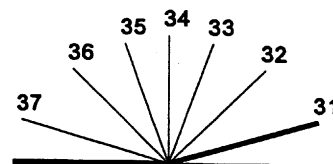
- (11) Moved to completely rearward position
 (12) Moved to rearward midrange position
 (13) Moved to slightly rearward position
 (14) Retained pre-impact position
 (15) Moved to slightly forward position
 (16) Moved to forward midrange position
 (17) Moved to completely forward position

***Slightly reclined prior to impact***

- (21) Moved to completely rearward position
 (22) Moved to rearward midrange position
 (23) Retained pre-impact position
 (24) Moved to upright position
 (25) Moved to slightly forward position
 (26) Moved to forward midrange position
 (27) Moved to completely forward position

***Completely reclined prior to impact***

- (31) Retained pre-impact position
 (32) Moved to rearward midrange position
 (33) Moved to slightly rearward position
 (34) Moved to upright position
 (35) Moved to slightly forward position
 (36) Moved to forward midrange position
 (37) Moved to completely forward position



(99) Unknown

54. Seat Performance (this Occupant Position) 1
 (0) Occupant not seated or no seat
 (1) No seat performance failure(s)
 (2) Seat adjusters failed
 (3) Seat back folding locks or "seat back" failed (specify): _____
 (4) Seat track/anchors failed
 (5) Deformed by impact of occupant
 (6) Deformed by passenger compartment intrusion, (specify): _____
 (7) Combination of above (specify): _____
 (8) Other (specify): _____
 (9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 207

(000) No child safety seat

Applicable codes are found in your NASS CDS
Data Collection, Coding and Editing

(950) Built-in child safety seat

(997) Other make/model (specify):

(998) Unknown make/model

(999) Unknown if child safety seat used

56. Type of Child Safety Seat 3

(0) No child safety seat

(1) Infant seat

(2) Toddler seat

(3) Convertible seat

(4) Booster seat - with shield

(5) Booster seat - without shield

(7) Other type child safety seat (specify):

(8) Unknown child safety seat type

(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 01

(00) No child safety seat

Designed for Rear Facing for This Age/Weight

(01) Rear facing

(02) Forward facing

(08) Other orientation (specify):

(09) Unknown orientation*Designed For Forward Facing for This Age/Weight*

(11) Rear facing

(12) Forward facing

(18) Other orientation (specify):

(19) Unknown orientation*Unknown Design or Orientation For This
Age/Weight, or Unknown Age/Weight*

(21) Rear facing

(22) Forward facing

(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 1259. Child Safety Seat Shield Usage 1260. Child Safety Seat Tether Usage 03Note: Options below applicable to
Variables OA58-OA60.

(00) No child safety seat

Not Designed With Harness/Shield/Tether(01) After market harness/shield/tether
added, not used

(02) After market harness/shield/tether used

(03) Child safety seat used, but no after market
harness/shield/tether added(09) Unknown if harness/shield/tether
added or used*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used

(12) Harness/shield/tether used

(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

(21) Harness/shield/tether not used

(22) Harness/shield/tether used

(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES**61. Injury Severity (Police Rating)**4

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality1

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

Nonfatal

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):

- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment)2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

64. Hospital Stay00

(00) Not Hospitalized

Code the number of days (up through 60) that the occupant stayed in hospital.

- (61) 61 days or more
- (99) Unknown

65. Working Days Lost97

Code the number of days (up through 60) that the occupant lost from work due to the accident

- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

STOP WORK HERE**VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

TO BE CODED BY THE ZONE CENTER**INJURY CONSEQUENCES****66. Time to Death**

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

12**67. 1st Medically Reported Cause of Death**01**68. 2nd Medically Reported Cause of Death**03**69. 3rd Medically Reported Cause of Death**02

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

70. Number of Recorded Injuries for This Occupant

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

06**TRAUMA DATA****71. Glasgow Coma Scale (GCS) Score (at Medical Facility)**03

- (00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood?1

- (1) No - blood not given
(2) Yes - blood given

(specify units):

- (9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO₃99

- (00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO₃
(96) ABGs reported, HCO₃ unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION**74. Primary Source of Belt Use Determination**1

- (0) Not equipped/not available/destroyed or rendered inoperative

- (1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):

- (9) Unknown if belt used



BEST AVAILABLE

U.S. Department of Transportation
National Highway Traffic Safety
Administration

OCCUPANT INJURY FORM

Form Approved
O.M.B. No. 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

3. Vehicle Number

2. Case Number - Stratum

4. Occupant Number

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

| Source of Injury Data | Body Region | Type of Anatomic Structure | Specific Anatomic Structure | Level of Injury | A.I.S. Severity | Aspect | Injury Source | Injury Confidence Level | Direct/Indirect Injury | Occupant Area Intrusion Number |
|-----------------------|-------------|----------------------------|-----------------------------|-----------------|-----------------|--------|---------------|-------------------------|------------------------|--------------------------------|
|-----------------------|-------------|----------------------------|-----------------------------|-----------------|-----------------|--------|---------------|-------------------------|------------------------|--------------------------------|

Subdural Hematoma 1st 5. 2 6. 1 7. 4 8. 06 9. 56 10. 5 11. 9 12. 185 13. 1 14. 1 15. 00

Subarachnoid Hemorrhage 2nd 16. 2 17. 1 18. 4 19. 06 20. 84 21. 3 22. 9 23. 185 24. 1 25. 1 26. 00

Epidural Hematoma 3rd 27. 2 28. 1 29. 4 30. 06 31. 36 32. 5 33. 9 34. 185 35. 1 36. 1 37. 00

Basilar Skull Frx 4th 38. 2 39. 1 40. 5 41. 02 42. 00 43. 3 44. 8 45. 185 46. 1 47. 1 48. 00

Brain & Spelling of Head 5th 49. 2 50. 1 51. 9 52. 04 53. 02 54. 1 55. 2 56. 185 57. 1 58. 1 59. 00

LL 6th 60. 1 61. 5 62. 9 63. 00 64. 99 65. 1 66. 8 67. 143 68. 1 69. 1 70. 00

7th 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81.

8th 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92.

9th 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103.

10th 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114.

| OCCUPANT INJURY DATA | | | | | | | | | | | |
|-----------------------------|----------------|----------------------------------|-----------------------------------|--------------------|--------------------|---|--------|------------------|---|-------------------------------|---|
| Source of Injury Data | A.I.S. - 90 | | | | | | Aspect | Injury Source | Injury Source Confidence Level | Direct/ Indirect Injury | Occupant Area Intrusion Number |
| | Body Region | Type of Anatomic Structure | Specific Anatomic Structure | Level of Injury | A.I.S. Severity | | | | | | |
| 11th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 12th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 13th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 14th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 15th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 16th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 17th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 18th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 19th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 20th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 21st | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 22nd | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 23rd | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 24th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |
| 25th | — | — | — | — — — | — | — | — | — — — — | — | — | — — — |

OCCUPANT INJURY CLASSIFICATION

| Body Region | Specific Anatomic Structure | Level of Injury | Aspect |
|---------------------|--|--|------------------|
| (1) Head | | Specific injuries are assigned consecutive two-digit numbers beginning with 02. | (1) Right |
| (2) Face | | | (2) Left |
| (3) Neck | | | (3) Bilateral |
| (4) Thorax | <u>Vessels, Nerves, Organs.</u> | To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity. | (4) Central |
| (5) Abdomen | <u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02. | | (5) Anterior |
| (6) Spine | | | (6) Posterior |
| (7) Upper Extremity | | | (7) Superior |
| (8) Lower Extremity | | | (8) Inferior |
| (9) Unspecified | The exceptions to this rule apply to: | | (9) Unknown |
| | | | (0) Whole region |

Type of Anatomic Structure

- (1) Whole Area
- (2) Vessels
- (3) Nerves
- (4) Organs (includes Muscles/ligaments)
- (5) Skeletal (includes joints)
- (6) Head - LOC
- (9) Skin

Whole Area

- (02) Skin - Abrasion
- (04) Skin - Contusion
- (06) Skin - Laceration
- (08) Skin - Avulsion
- (10) Amputation
- (20) Burn
- (30) Crush
- (40) Degloving
- (50) Injury - NFS
- (90) Trauma, other than mechanical

Head - LOC

- (02) Length of LOC
- (04) Level
- (06) of
- (08) Consciousness
- (10) Concussion

Spine

- (02) Cervical
- (04) Thoracic
- (06) Lumbar

Abbreviated Injury Scale

- (1) Minor Injury
- (2) Moderate Injury
- (3) Serious Injury
- (4) Severe Injury
- (5) Critical Injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity

SOURCE OF INJURY DATA

INJURY SOURCE

DIRECT/INDIRECT INJURY

CONFIDENCE LEVEL

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): _____
- (9) Police _____

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

INJURY SOURCES

FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify): _____
- (019) Other front object (specify): _____

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify): _____
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify): _____

RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify): _____
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify): _____

INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify): _____
- (155) Head restraint system
- (160) Other occupants (specify): _____
- (161) Interior loose objects
- (162) Child safety seat (specify): _____
- (163) Other interior object (specify): _____

AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify): _____
- (195) Other air bag compartment cover (specify): _____

ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify): _____

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify): _____
- (409) Additional or relocated switches, (specify): _____
- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify): _____

EXTERIOR of OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tires (specify): _____
- (454) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify): _____
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surface
- (508) Side mirrors
- (509) Other side protrusions (specify): _____
- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify): _____
- (514) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify): _____
- (599) Unknown vehicle or object

NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify): _____
- (604) Air bag exhaust gases
- (697) Injured, unknown source

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Restrained?

☐ No
☒ Yes

Blood Alcohol Level
(mg/dl)

BAL = ____

Glasgow Coma
Scale Score

GCSS = ____

Units of Blood
Given

Units = ____

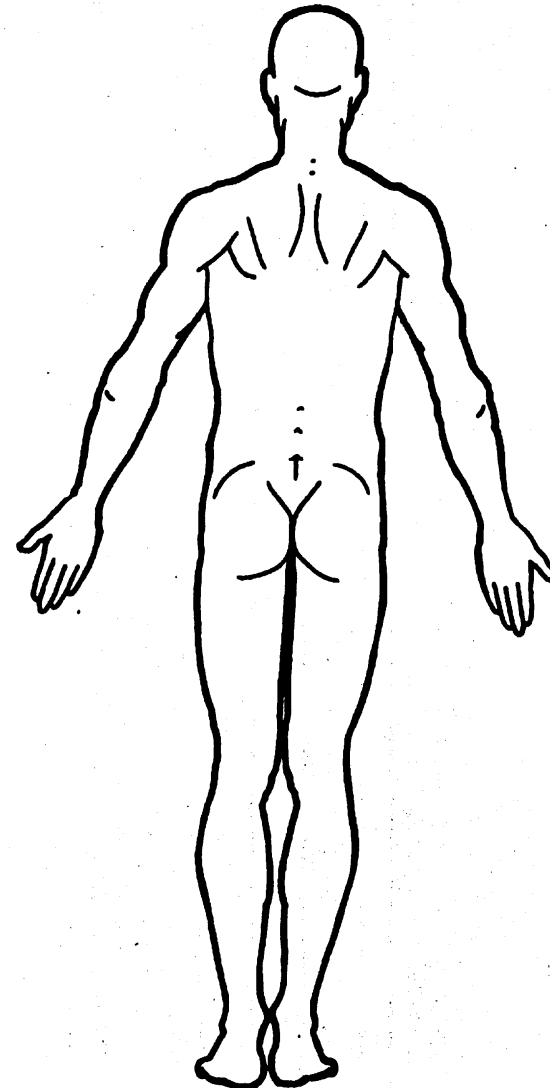
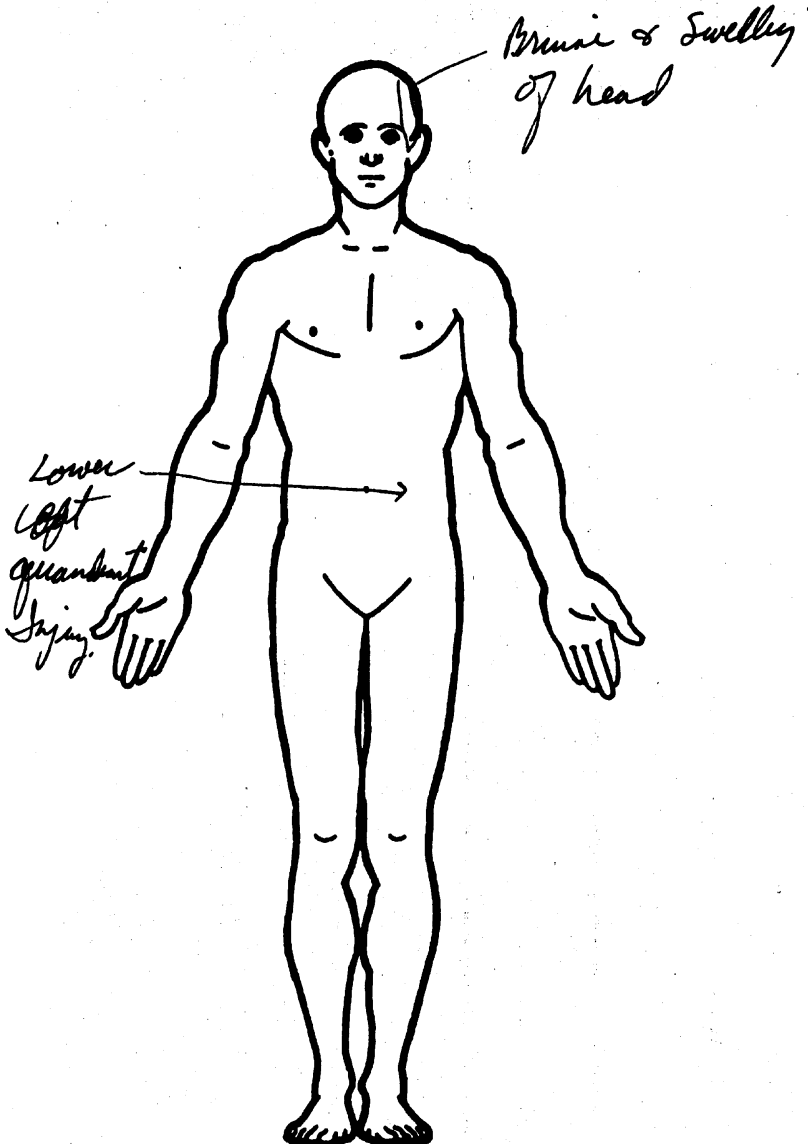
Arterial Blood Gases

pH = ____

PO₂ = ____

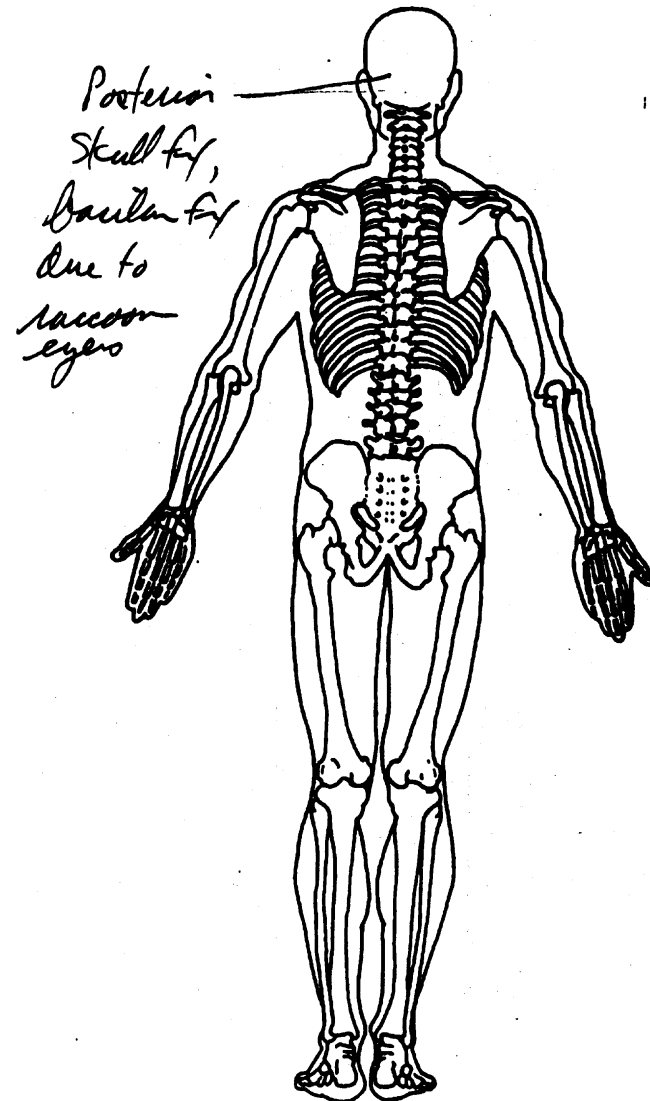
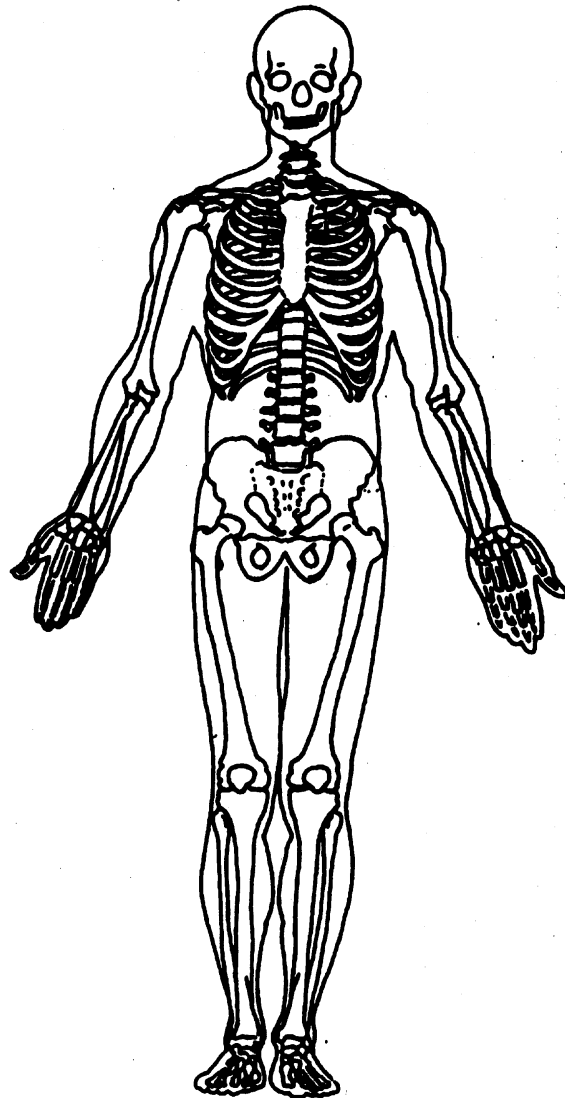
PCO₂ = ____

HCO₃ = ____



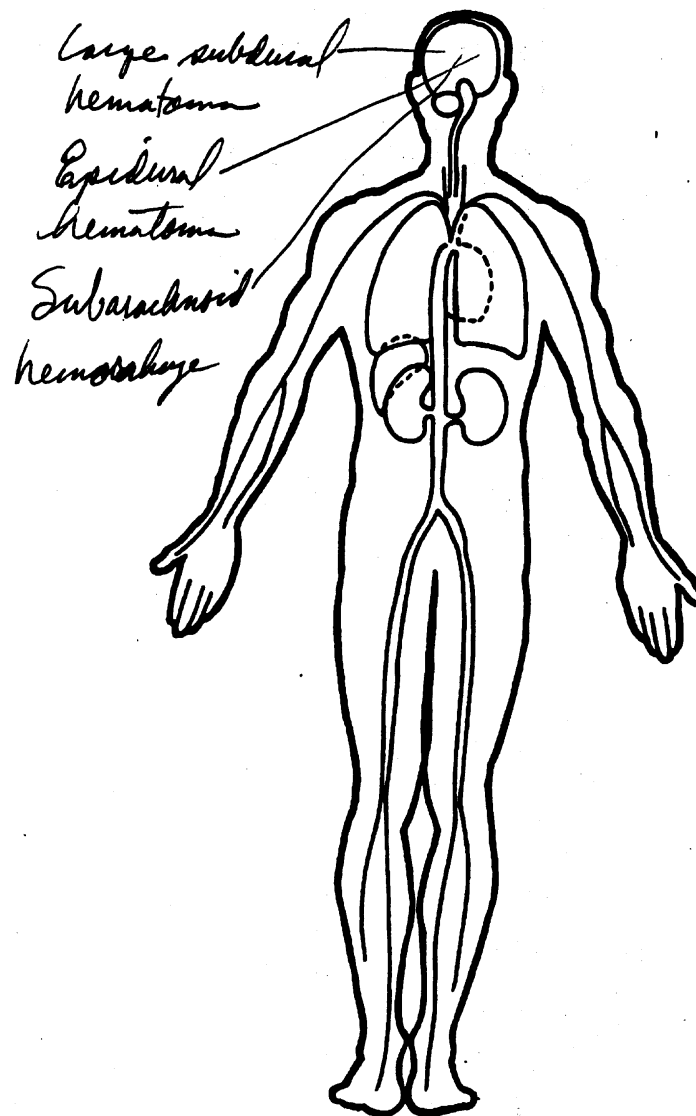
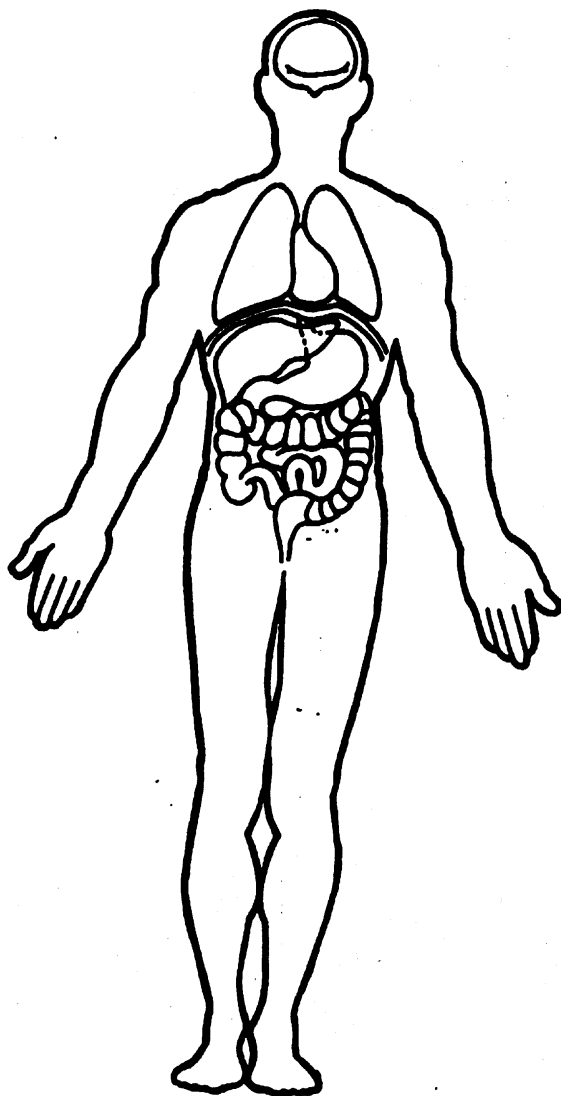
OFFICIAL INJURY DATA — SKELETAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



OFFICIAL INJURY DATA — INTERNAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)





OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum 96-02

3. Vehicle Number 01

4. Occupant Number 03

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 43

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex 2

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height 999

Code actual height to the nearest
centimeter.

(999) Unknown

 inches X 2.54 = centimeters

8. Occupant's Weight 999

Code actual weight to the nearest
kilogram.

(999) Unknown

 pounds X .4536 = kilograms

9. Occupant's Role 2

(1) Driver

(2) Passenger

(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position 21

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture 9

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with
another occupant or to look out a rear
window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in
front of seat

(8) Other abnormal posture (specify):

(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection 0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)
(specify): _____
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): _____
- (5) Integral structure
- (8) Other medium (specify): _____
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.
(specify): _____
- (9) Unknown

17. Occupant Mobility 4

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or not oriented to time or place
- (2) Removed from vehicle due to perceived serious injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (8) Removed from vehicle for other reasons
(specify): _____
- (9) Unknown

BELT SYSTEM FUNCTION

| | |
|--|--|
| <p>18. Manual (Active) Belt System Availability <u>4</u></p> <p>(0) None available</p> <p>(1) Belt removed/destroyed</p> <p>(2) Shoulder belt</p> <p>(3) Lap belt</p> <p>(4) Lap and shoulder belt</p> <p>(5) Belt available—type unknown</p> <p><i>Integral Belt Partially Destroyed</i></p> <p>(6) Shoulder belt (lap belt destroyed/removed)</p> <p>(7) Lap belt (shoulder belt destroyed/removed)</p> <p>(8) Other belt (specify):</p> <p>(9) Unknown</p> | <p>22. Manual Shoulder Belt Upper Anchorage Adjustment <u>1</u></p> <p>(0) No manual shoulder belt</p> <p>(1) No upper anchorage adjustment for manual shoulder belt</p> <p><i>Adjustable shoulder Belt Upper Anchorage</i></p> <p>(2) In full up position</p> <p>(3) In mid position</p> <p>(4) In full down position</p> <p>(5) Position unknown</p> <p>(9) Unknown if position has adjustable upper anchorage adjustment</p> |
| <p>19. Manual (Active) Belt System Use <u>02</u></p> <p>(00) None used, not available, or belt removed/destroyed</p> <p>(01) Inoperative (specify):</p> <p>(02) Shoulder belt</p> <p>(03) Lap belt</p> <p>(04) Lap and shoulder belt</p> <p>(05) Belt used—type unknown</p> <p>(08) Other belt used (specify):</p> <p>(12) Shoulder belt used with child safety seat</p> <p>(13) Lap belt used with child safety seat</p> <p>(14) Lap and shoulder belt used with child safety seat</p> <p>(15) Belt used with child safety seat—type unknown</p> <p>(18) Other belt used with child safety seat (specify):</p> <p>(99) Unknown if belt used</p> | <p>23. Automatic (Passive) Belt System Availability/Function <u>0</u></p> <p>(0) Not equipped/not available</p> <p>(1) 2 point automatic belts</p> <p>(2) 3 point automatic belts</p> <p>(3) Automatic belts - type unknown</p> <p><i>Non-functional</i></p> <p>(4) Automatic belts destroyed or rendered inoperative</p> <p>(9) Unknown</p> <p>24. Automatic (Passive) Belt System Use <u>0</u></p> <p>(0) Not equipped/not available/destroyed or rendered inoperative</p> <p>(1) Automatic belt in use</p> <p>(2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):</p> <p>(3) Automatic belt use unknown</p> <p>(9) Unknown</p> |
| <p>20. Proper Use of Manual (Active) Belts <u>0</u></p> <p>(0) None used or not available</p> <p>(1) Belt used properly</p> <p>(2) Belt used properly with child safety seat</p> <p><i>Belt Used Improperly</i></p> <p>(3) Shoulder belt worn under arm</p> <p>(4) Shoulder belt worn behind back or seat</p> <p>(5) Belt worn around more than one person</p> <p>(6) Lap belt worn on abdomen</p> <p>(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):</p> <p>(8) Other improper use of manual belt system (specify):</p> <p>(9) Unknown</p> | <p>25. Automatic (Passive) Belt System Type <u>0</u></p> <p>(0) Not equipped/not available</p> <p>(1) Non-motorized system</p> <p>(2) Motorized system</p> <p>(9) Unknown</p> <p>26. Proper Use of Automatic (Passive) Belt System <u>0</u></p> <p>(0) Not equipped/not available/not used</p> <p>(1) Automatic belt used properly</p> <p>(2) Automatic belt used properly with child safety seat</p> <p><i>Automatic Belt Used Improperly</i></p> <p>(3) Automatic shoulder belt worn under arm</p> <p>(4) Automatic shoulder belt worn behind back</p> <p>(5) Automatic belt worn around more than one person</p> <p>(6) Lap portion of automatic belt worn on abdomen</p> <p>(7) Automatic lap and shoulder belt or</p> |
| <p>21. Manual (Active) Belt Failure Modes During Accident <u>1</u></p> <p>(0) No manual belt used or not available</p> <p>(1) No manual belt failure(s)</p> <p>(2) Torn webbing (stretched webbing not included)</p> <p>(3) Broken buckle or latchplate</p> <p>(4) Upper anchorage separated</p> <p>(5) Other anchorage separated (specify):</p> <p>(6) Broken retractor</p> <p>(7) Combination of above (specify):</p> <p>(8) Other manual belt failure (specify):</p> <p>(9) Unknown</p> | <p>automatic shoulder belt used improperly with child safety seat (specify):</p> <p>(8) Other improper use of automatic belt system (specify):</p> <p>(9) Unknown</p> <p>27. Automatic (Passive) Belt Failure Modes During Accident <u>0</u></p> <p>(0) Not equipped/not available/not in use</p> <p>(1) No automatic belt failure(s)</p> <p>(2) Torn webbing (stretched webbing not included)</p> <p>(3) Broken buckle or latchplate</p> <p>(4) Upper anchorage separated</p> <p>(5) Other anchorage separated (specify):</p> <p>(6) Broken retractor</p> <p>(7) Combination of above (specify):</p> <p>(8) Other automatic belt failure (specify):</p> <p>(9) Unknown</p> |

POLICE REPORTED RESTRAINT USE

AIR BAG SYSTEM FUNCTION

28. Police Reported Belt Use 4

- (0) None used
 (1) Police did not indicate belt use
 (2) Shoulder belt
 (3) Lap belt
 (4) Lap and shoulder belt
 (5) Belt used, type not specified
 (6) Child safety seat
 (7) Automatic belt
 (8) Other type belt, (specify):

(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function +

- (0) No air bag available
 (1) Police did not indicate air bag availability/function
 (2) Deployed
 (3) Not deployed
 (4) Unknown if deployed
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- [] Vehicle inspection
 [] Official injury data
 [] Driver/occupant interview
 [] Other (specify):

[] Unknown if belt used

30. Frontal Air Bag System 0

Availability/Function
 (This Occupant Position)

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

- (3) Air bag not reinstalled
 (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 0

- (0) Not equipped/not available
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

- (3) Air bag not reinstalled
 (9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

- (0) Not equipped with an "other" air bag
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

34. Are There Indications of Air Bag System Failure?

- (This Occupant Position)
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify):

(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 0

- (0) Not equipped/not available
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 0

- (0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 0

- (0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify):

(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 02

(00) Not equipped/not available

Code the accident event sequence number that initiated the air bag deployment

- (96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 0

- (0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify):

- (6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact +
- 000(000) Not equipped/not available
Code the value of the delta V for the impact that initiated the air bag deployment

- (996) Deployment, unknown longitudinal Delta V
(997) Not deployed
(998) Unknown if deployed
(999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 0

- (0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 0

- (0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 02

- (00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify):

- (95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM
EVALUATION *continued*

HEAD RESTRAINT AND SEAT EVALUATION

44. Source of Air Bag Damage 00
 (00) Not equipped/not available
 (01) Not damaged
 (02) Object worn by occupant, (specify):
 (03) Object carried by occupant, (specify):
 (04) Adaptive/assistive controls, (specify):
 (05) Fire in vehicle
 (06) Thermal burns
 (07) Rescue or emergency efforts
 (08) Other damage source (specify):
 (95) Damaged, unknown source
 (96) Deployed, unknown if damaged
 (97) Not deployed
 (98) Unknown if deployed
 (99) Unknown
45. Was The Air Bag Tethered? 0
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of tether straps):
 (3) Deployed, unknown if tethered
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
46. Did The Air Bag Have Vent Ports? 0
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify number of vent ports):
 (3) Deployed, unknown if vent ports present
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 0
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify):
 (3) Deployed, unknown if other occupant contact to air bag
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown
48. Was This Occupant Wearing Eye-wear? 9
 (0) Not air bag equipped/air bag not available
 (1) No
 (2) Eyeglasses/sunglasses
 (3) Contact lenses
 (4) Deployed, unknown if eyewear worn
 (7) Not deployed
 (8) Unknown if deployed
 (9) Unknown

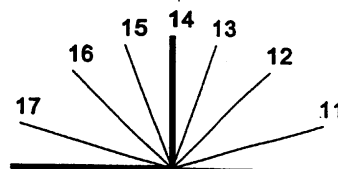
49. Head Restraint Type/Damage by Occupant at This Occupant Position 0
 (0) No head restraints
 (1) Integral—no damage
 (2) Integral—damaged during accident
 (3) Adjustable—no damage
 (4) Adjustable—damaged during accident
 (5) Add-on—no damage
 (6) Add-on—damaged during accident
 (8) Other (specify):
 (9) Unknown
50. Seat Type (this Occupant Position) 05
 (00) Occupant not seated or no seat
 (01) Bucket
 (02) Bucket with folding back
 (03) Bench
 (04) Bench with separate back cushions
 (05) Bench with folding back(s)
 (06) Split bench with separate back cushions
 (07) Split bench with folding back(s)
 (08) Pedestal (i.e., column supported)
 (09) Box mounted seat (i.e., van type)
 (10) Other seat type (specify):
 (99) Unknown
51. Seat Orientation (this Occupant Position) 1
 (0) Occupant not seated or no seat
 (1) Forward facing seat
 (2) Rear facing seat
 (3) Side facing seat (inward)
 (4) Side facing seat (outward)
 (8) Other (specify):
 (9) Unknown
52. Seat Track Adjusted Position Prior To Impact 1
 (0) Occupant not seated or no seat
 (1) Non-adjustable seat track
- Adjustable Seat Track*
 (2) Seat at forward most track position
 (3) Seat between forward most and middle track positions
 (4) Seat at middle track position
 (5) Seat between middle and rear most track positions
 (6) Seat at rear most track position
 (9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 01

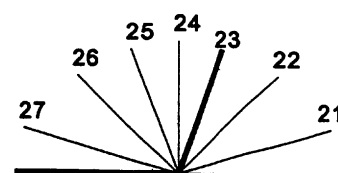
- (00) Occupant not seated or no seat
(01) Not adjustable

Upright prior to impact

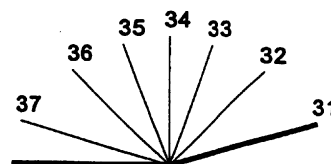
- (11) Moved to completely rearward position
(12) Moved to rearward midrange position
(13) Moved to slightly rearward position
(14) Retained pre-impact position
(15) Moved to slightly forward position
(16) Moved to forward midrange position
(17) Moved to completely forward position

***Slightly reclined prior to impact***

- (21) Moved to completely rearward position
(22) Moved to rearward midrange position
(23) Retained pre-impact position
(24) Moved to upright position
(25) Moved to slightly forward position
(26) Moved to forward midrange position
(27) Moved to completely forward position

***Completely reclined prior to impact***

- (31) Retained pre-impact position
(32) Moved to rearward midrange position
(33) Moved to slightly rearward position
(34) Moved to upright position
(35) Moved to slightly forward position
(36) Moved to forward midrange position
(37) Moved to completely forward position



(99) Unknown

54. Seat Performance (this Occupant Position) 1

- (0) Occupant not seated or no seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks or "seat back" failed
(specify): _____
(4) Seat track/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion, (specify): _____
(7) Combination of above (specify): _____
(8) Other (specify): _____
(9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000
(000) No child safety seat
Applicable codes are found in your NASS CDS
Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):

(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 00
(00) No child safety seat

Designed for Rear Facing for This Age/Weight

(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight

(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to
Variables OA58-OA60.

(00) No child safety seat

Not Designed With Harness/Shield/Tether

(01) After market harness/shield/tether
added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market
harness/shield/tether added
(09) Unknown if harness/shield/tether
added or used

Designed With Harness/Shield/Tether

(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

61. Injury Severity (Police Rating) 0

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality 0

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

Nonfatal

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):

- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 0

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

- (9) Unknown

64. Hospital Stay 00

- (00) Not Hospitalized
- _____ Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

65. Working Days Lost 99

- _____ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

STOP WORK HERE

VARIABLES 66-74

TO BE CODED BY THE ZONE CENTER

TO BE CODED BY THE ZONE CENTER**INJURY CONSEQUENCES**

66. Time to Death 00
 _____ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
 (00) Not fatal
 (96) Fatal - ruled disease
 (99) Unknown

67. 1st Medically Reported Cause of Death 00

68. 2nd Medically Reported Cause of Death 00

69. 3rd Medically Reported Cause of Death 00
 _____ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
 (00) Not fatal or no additional causes
 (96) Mode of death given but specific injuries are not linked to cause of death. (specify): _____

(97) Other result (includes fatal ruled disease) (specify): _____

(99) Unknown

70. Number of Recorded Injuries for This Occupant 00
 _____ Code the actual number of injuries recorded for this occupant.
 (00) No recorded injuries
 (97) Injured, details unknown
 (99) Unknown if injured

TRAUMA DATA

71. Glasgow Coma Scale (GCS) Score 00
 (at Medical Facility)
 (00) Not injured
 (01) Injured - not treated at medical facility
 (02) No GCS Score at medical facility
 (03-15) Code the actual value of the initial GCS Score recorded at medical facility.
 (97) Injured, details unknown
 (99) Unknown if injured

72. Was the Occupant Given Blood? 1
 (1) No - blood not given
 (2) Yes - blood given
 (specify units): _____
 (9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO₃ 00
 (00) Not injured
 (01) Injured, ABGs not measured or reported
 (02-50) Code the actual value of the HCO₃
 (96) ABGs reported, HCO₃ unknown
 (97) Injured, details unknown
 (99) Unknown if injured

BELT USE DETERMINATION

74. Primary Source of Belt Use Determination 1
 (0) Not equipped/not available/destroyed or rendered inoperative
 (1) Vehicle inspection
 (2) Official injury data
 (3) Driver/occupant interview
 (8) Other (specify): _____
 (9) Unknown if belt used



OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height

Code actual height to the nearest
centimeter.

(999) Unknown

_____ inches X 2.54 = _____ centimeters

8. Occupant's Weight

Code actual weight to the nearest
kilogram.

(999) Unknown

_____ pounds X .4536 = _____ kilograms

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify): _____

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify): _____

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify): _____

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify): _____

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify): _____

(99) Unknown

11. Occupant's Posture

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with
another occupant or to look out a rear
window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in
front of seat

(8) Other abnormal posture (specify): _____

(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

0

13. Ejection Area

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)
(specify): _____
- (9) Unknown

0

14. Ejection Medium

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): _____
- (5) Integral structure
- (8) Other medium (specify): _____
- (9) Unknown

0

15. Medium Status (Immediately Prior To Impact)

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

0

16. Entrapment

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.
(specify): _____
- (9) Unknown

0

17. Occupant Mobility

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or not oriented to time or place
- (2) Removed from vehicle due to perceived serious injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (8) Removed from vehicle for other reasons
(specify): _____
- (9) Unknown

4

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 02

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

(02) Shoulder belt

(03) Lap belt

(04) Lap and shoulder belt

(05) Belt used—type unknown

(08) Other belt used (specify):

(12) Shoulder belt used with child safety seat

(13) Lap belt used with child safety seat

(14) Lap and shoulder belt used with child safety seat

(15) Belt used with child safety seat—type unknown

(18) Other belt used with child safety seat (specify):

(99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 0

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

(3) Shoulder belt worn under arm

(4) Shoulder belt worn behind back or seat

(5) Belt worn around more than one person

(6) Lap belt worn on abdomen

(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 0

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

22. Manual Shoulder Belt Upper Anchorage Adjustment 1

- (0) No manual shoulder belt
- (1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage

(2) In full up position

(3) In mid position

(4) In full down position

(5) Position unknown

(9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

Non-functional

(4) Automatic belts destroyed or rendered inoperative

(9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

(3) Automatic shoulder belt worn under arm

(4) Automatic shoulder belt worn behind back

(5) Automatic belt worn around more than one person

(6) Lap portion of automatic belt worn on abdomen

(7) Automatic lap and shoulder belt or

automatic shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of automatic belt system (specify):

(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other automatic belt failure (specify):

(9) Unknown

POLICE REPORTED RESTRAINT USE

AIR BAG SYSTEM FUNCTION

28. Police Reported Belt Use 4

- (0) None used
 (1) Police did not indicate belt use
 (2) Shoulder belt
 (3) Lap belt
 (4) Lap and shoulder belt
 (5) Belt used, type not specified
 (6) Child safety seat
 (7) Automatic belt
 (8) Other type belt, (specify):

(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 0

- (0) No air bag available
 (1) Police did not indicate air bag availability/function
 (2) Deployed
 (3) Not deployed
 (4) Unknown if deployed
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☒ Vehicle inspection
☐ Official injury data
☐ Driver/occupant interview
☐ Other (specify):

☐ Unknown if belt used

30. Frontal Air Bag System Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

- (3) Air bag not reinstalled
 (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 0

- (0) Not equipped/not available
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):

- (3) Air bag not reinstalled
 (9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

- (0) Not equipped with an "other" air bag
 (1) Deployed during accident (as a result of impact)
 (2) Deployed inadvertently just prior to accident
 (3) Deployed, details unknown
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
 (5) Unknown if deployed
 (7) Nondeployed
 (9) Unknown

34. Are There Indications of Air Bag System Failure? 0

- (This Occupant Position)
 (0) Not equipped/not available
 (1) No
 (2) Yes (specify):

(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 0

- (0) Not equipped/not available
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 0

- (0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 0

- (0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify):
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 02

- (00) Not equipped/not available
Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 0

- (0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify):
(6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of +Delta V For Air Bag - 000

Deployment Impact

(_000) Not equipped/not available

Code the value of the delta V for the impact that initiated the air bag deployment

(_996) Deployment, unknown longitudinal Delta V

(_997) Not deployed

(_998) Unknown if deployed

(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 0

- (0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 0

- (0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 02

- (00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify):

(_95) Damaged, details unknown

(_96) Deployed, unknown if damaged

(_97) Not deployed

(_98) Unknown if deployed

(_99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM
EVALUATION *continued*

HEAD RESTRAINT AND SEAT EVALUATION

44. Source of Air Bag Damage 00
(00) Not equipped/not available
(01) Not damaged
(02) Object worn by occupant, (specify):
(03) Object carried by occupant, (specify):
(04) Adaptive/assistive controls, (specify):
(05) Fire in vehicle
(06) Thermal burns
(07) Rescue or emergency efforts
(88) Other damage source (specify):
(95) Damaged, unknown source
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown
45. Was The Air Bag Tethered? 0
(0) Not equipped/not available
(1) No
(2) Yes (specify number of tether straps):
(3) Deployed, unknown if tethered
(7) Not deployed
(8) Unknown if deployed
(9) Unknown
46. Did The Air Bag Have Vent Ports? 0
(0) Not equipped/not available
(1) No
(2) Yes (specify number of vent ports):
(3) Deployed, unknown if vent ports present
(7) Not deployed
(8) Unknown if deployed
(9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 0
(0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if other occupant contact to air bag
(7) Not deployed
(8) Unknown if deployed
(9) Unknown
48. Was This Occupant Wearing Eye-wear? 9
(0) Not air bag equipped/air bag not available
(1) No
(2) Eyeglasses/sunglasses
(3) Contact lenses
(4) Deployed, unknown if eyewear worn
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

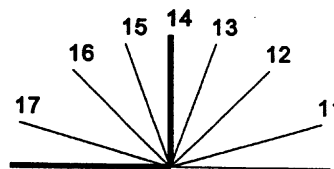
49. Head Restraint Type/Damage by Occupant at This Occupant Position 0
(0) No head restraints
(1) Integral—no damage
(2) Integral—damaged during accident
(3) Adjustable—no damage
(4) Adjustable—damaged during accident
(5) Add-on—no damage
(6) Add-on—damaged during accident
(8) Other (specify):
(9) Unknown
50. Seat Type (this Occupant Position) 0 5
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Box mounted seat (i.e., van type)
(10) Other seat type (specify):
(99) Unknown
51. Seat Orientation (this Occupant Position) 1
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify):
(9) Unknown
52. Seat Track Adjusted Position Prior To Impact 1
(0) Occupant not seated or no seat
(1) Non-adjustable seat track
Adjustable Seat Track
(2) Seat at forward most track position
(3) Seat between forward most and middle track positions
(4) Seat at middle track position
(5) Seat between middle and rear most track positions
(6) Seat at rear most track position
(9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*

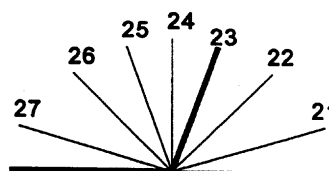
53. Seat Back Incline Prior and Post Impact 21
 (00) Occupant not seated or no seat
 (01) Not adjustable

Upright prior to impact

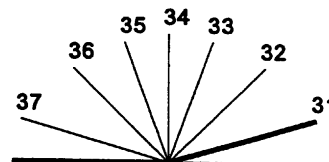
- (11) Moved to completely rearward position
 (12) Moved to rearward midrange position
 (13) Moved to slightly rearward position
 (14) Retained pre-impact position
 (15) Moved to slightly forward position
 (16) Moved to forward midrange position
 (17) Moved to completely forward position

***Slightly reclined prior to impact***

- (21) Moved to completely rearward position
 (22) Moved to rearward midrange position
 (23) Retained pre-impact position
 (24) Moved to upright position
 (25) Moved to slightly forward position
 (26) Moved to forward midrange position
 (27) Moved to completely forward position

***Completely reclined prior to impact***

- (31) Retained pre-impact position
 (32) Moved to rearward midrange position
 (33) Moved to slightly rearward position
 (34) Moved to upright position
 (35) Moved to slightly forward position
 (36) Moved to forward midrange position
 (37) Moved to completely forward position



(99) Unknown

54. Seat Performance (this Occupant Position) 1
 (0) Occupant not seated or no seat
 (1) No seat performance failure(s)
 (2) Seat adjusters failed
 (3) Seat back folding locks or "seat back" failed
 (specify): _____
 (4) Seat track/anchors failed
 (5) Deformed by impact of occupant
 (6) Deformed by passenger compartment
 intrusion, (specify): _____
 (7) Combination of above (specify): _____
 (8) Other (specify): _____
 (9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000
(000) No child safety seat
Applicable codes are found in your NASS CDS
Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):

(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 01
(00) No child safety seat

Designed for Rear Facing for This Age/Weight

(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight

(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to
Variables OA58-OA60.

(00) No child safety seat

Not Designed With Harness/Shield/Tether

(01) After market harness/shield/tether
added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market
harness/shield/tether added
(09) Unknown if harness/shield/tether
added or used

Designed With Harness/Shield/Tether

(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

61. Injury Severity (Police Rating) 0

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality 0

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

Nonfatal

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):

- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 0

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

- (9) Unknown

64. Hospital Stay ad

- (00) Not Hospitalized
- _____ Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

65. Working Days Lost 97

- _____ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

STOP WORK HERE

VARIABLES 66-74

TO BE CODED BY THE ZONE CENTER

TO BE CODED BY THE ZONE CENTER**INJURY CONSEQUENCES****66. Time to Death**

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Death**68. 2nd Medically Reported Cause of Death****69. 3rd Medically Reported Cause of Death**

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

70. Number of Recorded Injuries for This Occupant

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

TRAUMA DATA**71. Glasgow Coma Scale (GCS) Score (at Medical Facility)**

- (00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood?

- (1) No - blood not given
(2) Yes - blood given
(specify units):
(9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO₃

- (00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO₃
(96) ABGs reported, HCO₃ unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION**74. Primary Source of Belt Use Determination**

- (0) Not equipped/not available/destroyed or rendered inoperative
(1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):
(9) Unknown if belt used



GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

VEHICLE IDENTIFICATION

4. Vehicle Model Year

Code the last two digits of the model year
(99) Unknown

5. Vehicle Make (specify):

BMW
Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.
(99) Unknown

6. Vehicle Model (specify):

325ES
Applicable codes are found in your
NASS Data Collection, Coding and
Editing Manual.
(999) Unknown

7. Body Type

Note: Applicable codes may be found on
the back of this page.

8. Vehicle Identification Number

WB AAB540569 (Serial omitted)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Left justify; Slash zeros and letter Z (0 and Z)
No VIN—Code all zeros
Unknown—Code all nines

9. Vehicle Special Use (This Trip)

- (0) No special use
(1) Taxi
(2) Vehicle used as school bus
(3) Vehicle used as other bus
(4) Military
(5) Police
(6) Ambulance
(7) Fire truck or car
(8) Other (specify):
(9) Unknown

OFFICIAL RECORDS

10. Police Reported Vehicle Disposition

- (0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

11. Police Reported Travel Speed

Code to the nearest kmph (NOTE: 000 means
less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

mph X 1.6093 = kmph

12. Speed Limit

- (000) No statutory limit
Code posted or statutory speed limit in kmph
(999) Unknown

40 mph X 1.6093 = kmph

13. Police Reported Alcohol Presence For Driver

- (0) No alcohol present
(1) Yes alcohol present
(7) Not reported
(8) No driver present
(9) Unknown

14. Alcohol Test Result For Driver

- Code actual value (decimal implied
before first digit—0.xx)
(95) Test refused
(96) None given
(97) AC test performed, results unknown
(98) No driver present
(99) Unknown

Source:

15. Police Reported Other Drug Presence For Driver

- (0) No other drug(s) present
(1) Yes other drug(s) present
(7) Not reported
(8) No driver present
(9) Unknown

16. Other Drug Specimen Test Result For Driver

- (0) No specimen test given
(1) Drug(s) not found in specimen
(2) Drug(s) found in specimen, (specify):
(3) Specimen test given, results unknown or not
obtained
(8) No driver present
(9) Unknown if specimen test given

17. Driver's Zip Code

(00001) Driver not a resident of U.S. or territories

Code actual 5-digit zip code

- (99998) No driver present
(99999) Unknown

18. Driver's Race/Ethnic Origin

- (1) White (non-Hispanic)
(2) Black (non-Hispanic)
(3) White (Hispanic)
(4) Black (Hispanic)
(5) American Indian, Eskimo or Aleut
(6) Asian or Pacific Islander
(7) Other (specify):

- (8) No driver present
(9) Unknown

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): _____
- (09) Unknown automobile type

Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

Utility Vehicles ($\leq 4,536$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

Van Based Light Trucks ($\leq 4,536$ kgs GVWR)

- (20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ($\leq 4,536$ kgs GVWR)
- (23) Van based motorhome ($\leq 4,536$ kgs GVWR)
- (24) Van based school bus ($\leq 4,536$ kgs GVWR)
- (25) Van based other bus ($\leq 4,536$ kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): _____
- (29) Unknown van type

Light Conventional Trucks (Pickup style cab, $\leq 4,536$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)
- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

Other Light Trucks ($\leq 4,536$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): _____
- (59) Unknown bus type

Medium/Heavy Trucks ($> 4,536$ kgs GVWR)

- (60) Step van ($> 4,536$ kgs GVWR)
- (61) Single unit straight truck ($4,536$ kgs $<$ GVWR $\leq 8,845$ kgs)
- (62) Single unit straight truck ($8,845$ kgs $<$ GVWR $\leq 11,793$ kgs)
- (63) Single unit straight truck ($> 11,793$ kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): _____
- (89) Unknown motored cycle type

Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

PRECRASH ENVIRONMENTAL DATA

| | |
|---|--|
| <p>19. Relation To Interchange Or Junction <u>2</u></p> <p>(0) Non-interchange area and non-junction</p> <p>(1) Interchange area related</p> <p><i>Non-Interchange junctions</i></p> <p>(2) Intersection related</p> <p>(3) Driveway, alley access related</p> <p>(4) Other junction (specify) _____</p> <p>(5) Unknown type of junction _____</p> <p>(9) Unknown</p> | <p>25. Roadway Surface Condition <u>12</u></p> <p>(1) Dry</p> <p>(2) Wet</p> <p>(3) Snow or slush</p> <p>(4) Ice</p> <p>(5) Sand, dirt, or oil</p> <p>(8) Other (specify): _____</p> <p>(9) Unknown</p> |
| <p>20. Trafficway Flow <u>0</u></p> <p>(0) Not physically divided (two way traffic)</p> <p>(1) Divided trafficway-median strip without positive barrier</p> <p>(2) Divided trafficway-median strip with positive barrier</p> <p>(3) One way traffic</p> <p>(9) Unknown</p> | <p>26. Light Conditions <u>1</u></p> <p>(1) Daylight</p> <p>(2) Dark</p> <p>(3) Dark, but lighted</p> <p>(4) Dawn</p> <p>(5) Dusk</p> <p>(9) Unknown</p> |
| <p>21. Number Of Travel Lanes <u>2</u></p> <p>(1) One</p> <p>(2) Two</p> <p>(3) Three</p> <p>(4) Four</p> <p>(5) Five</p> <p>(6) Six</p> <p>(7) Seven or more</p> <p>(9) Unknown</p> | <p>27. Atmospheric Conditions <u>0</u></p> <p>(0) No adverse atmospheric-related driving conditions</p> <p>(1) Rain</p> <p>(2) Sleet/hail</p> <p>(3) Snow</p> <p>(4) Fog</p> <p>(5) Rain and fog</p> <p>(6) Sleet and fog</p> <p>(7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): _____</p> <p>(9) Unknown</p> |
| <p>22. Roadway Alignment <u>1</u></p> <p>(1) Straight</p> <p>(2) Curve right</p> <p>(3) Curve left</p> <p>(9) Unknown</p> | <p>28. Traffic Control Device <u>0</u></p> <p>(0) No traffic control(s)</p> <p>(1) Traffic control signal (not RR crossing)</p> <p><i>Regulatory</i></p> <p>(2) Stop sign</p> <p>(3) Yield sign</p> <p>(4) School zone sign</p> <p>(5) Other regulatory sign (specify): _____</p> |
| <p>23. Roadway Profile <u>1</u></p> <p>(1) Level</p> <p>(2) Uphill grade (>2%) <u>+ 1.7%</u></p> <p>(3) Hill crest</p> <p>(4) Downhill grade (>2%)</p> <p>(5) Sag</p> <p>(9) Unknown</p> | <p>(6) Warning sign (not RR crossing)</p> <p>(7) Unknown sign</p> <p>(8) Miscellaneous/other controls including RR controls (specify): _____</p> <p>(9) Unknown</p> |
| <p>24. Roadway Surface Type <u>2</u></p> <p>(1) Concrete</p> <p>(2) Bituminous (asphalt)</p> <p>(3) Brick or block</p> <p>(4) Slag, gravel, or stone</p> <p>(5) Dirt</p> <p>(8) Other (specify): _____</p> <p>(9) Unknown</p> | <p>29. Traffic Control Device Functioning <u>0</u></p> <p>(0) No traffic control device</p> <p>(1) Traffic control device not functioning (specify): _____</p> <p>(2) Traffic control device functioning properly</p> <p>(9) Unknown</p> |

PRECRASH DRIVER RELATED DATA

30. Driver's Distraction/Inattention To Driving (Prior To Recognition Of Critical Event) 01
- (00) No driver present
- (01) Attentive or not distracted
- (02) Looked but did not see
- Distractions*
- (03) By other occupant(s), (specify): _____
- (04) By moving object in vehicle (specify): _____
- (05) While talking or listening to cellular phone (specify location and type of phone): _____
- (06) While dialing cellular phone (specify location and type of phone): _____
- (07) While adjusting climate controls
- (08) While adjusting radio, cassette, CD (specify): _____
- (09) While using other device/controls integral to vehicle (specify): _____
- (10) While using or reaching for device/object brought into vehicle (specify): _____
- (11) Sleepy or fell asleep
- (12) Distracted by outside person, object, or event (specify): _____
- (13) Eating or drinking
- (14) Smoking related
- (97) Distracted/inattentive, details unknown
- (98) Other, distraction (specify): _____
- (99) Unknown
31. Pre-Event Movement (Prior To Recognition of Critical Event) 01
- (00) No driver present
- (01) Going straight
- (02) Decelerating in traffic lane
- (03) Accelerating in traffic lane
- (04) Starting in traffic lane
- (05) Stopped in traffic lane
- (06) Passing or overtaking another vehicle
- (07) Disabled or parked in travel lane
- (08) Leaving a parking position
- (09) Entering a parking position
- (10) Turning right
- (11) Turning left
- (12) Making a U-turn
- (13) Backing up (other than for parking position)
- (14) Negotiating a curve
- (15) Changing lanes
- (16) Merging
- (17) Successful avoidance maneuver to a previous critical event
- (97) Other (specify): _____
- (99) Unknown
32. Critical Precrash Event 62
- THIS VEHICLE LOSS OF CONTROL DUE TO:**
- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify): _____
- (09) Unknown cause of control loss

THIS VEHICLE TRAVELLING

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (18) This vehicle decelerating
- (19) Unknown travel direction

OTHER MOTOR VEHICLE IN LANE

- (50) Other vehicle stopped
- (51) Traveling in same direction with lower steady speed
- (52) Traveling in same direction while decelerating
- (53) Traveling in same direction with higher speed
- (54) Traveling in opposite direction
- (55) In crossover
- (56) Backing
- (59) Unknown travel direction of other motor vehicle in lane

OTHER MOTOR VEHICLE ENCROACHING INTO LANE

- (60) From adjacent lane (same direction)—over left lane line
- (61) From adjacent lane (same direction)—over right lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details unknown

PEDESTRIAN, PEDALCYCLIST, OR OTHER NONMOTORIST

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian—unknown location
- (83) Pedalcyclist or other nonmotorist in roadway (specify): _____
- (84) Pedalcyclist or other nonmotorist approaching roadway, (specify): _____
- (85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

OBJECT OR ANIMAL

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location
- (98) Other critical precrash event (specify): _____
- (99) Unknown

33. Attempted Avoidance Maneuver 99

- (00) No driver present
- (01) No avoidance maneuver
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (98) Other action (specify):

(99) Unknown

34. Pre-Impact Stability 1

- (0) No driver present
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify):

(9) Precrash stability unknown

35. Pre-Impact Location 1

- (0) No driver present
- (1) Stayed in original travel lane
- (2) Stayed on roadway but left original travel lane
- (3) Stayed on roadway, not known if left original travel lane
- (4) Departed roadway
- (5) Remained off roadway
- (6) Returned to roadway
- (7) Entered roadway
- (9) Unknown

36. Accident Type 69

(Note: Applicable codes on back of this page)

- (00) No impact
Code the number of the diagram that best describes the accident circumstance
- (98) Other accident type (specify):

(99) Unknown

STOP HERE IF GV07 DOES NOT EQUAL 01 - 49

| Category | Configuration | ACCIDENT TYPES (Includes Intent) | | | | |
|---|-----------------------------|--|---|--|----------------------------------|--|
| I. Single Driver | A. Right Roadside Departure | 01 DRIVE OFF ROAD | 02 CONTROL/ TRACTION LOSS | 03 AVOID COLLISION WITH VEH., PED., ANIM. | 04 SPECIFICS OTHER | 05 SPECIFICS UNKNOWN |
| | B. Left Roadside Departure | 06 DRIVE OFF ROAD | 07 CONTROL/ TRACTION LOSS | 08 AVOID COLLISION WITH VEH., PED., ANIM. | 09 SPECIFICS OTHER | 10 SPECIFICS UNKNOWN |
| | C. Forward Impact | 11 PARKED-VEH. | 12 STA. OBJECT | 13 PEDESTRIAN/ ANIMAL | 14 END DEPARTURE | 15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN |
| II. Same Trafficway Same Direction | D. Rear-End | 20 STOPPED 21, 22, 23 | 22 21 23 SLOWER 25, 26, 27 | 24 25 26 27 28 29 30 31 DECEL. 29, 30, 31 | (EACH • 32) SPECIFICS OTHER | (EACH • 33) SPECIFICS UNKNOWN |
| | E. Forward Impact | 34 CONTROL/ TRACTION LOSS | 35 CONTROL/ TRACTION LOSS | 36 CONTROL/ TRACTION LOSS | 37 AVOID COLLISION WITH VEH. | 38 AVOID COLLISION WITH OBJECT (EACH • 42) (EACH • 43) SPECIFICS OTHER SPECIFICS UNKNOWN |
| | F. Side-swipe Angle | 44 45 46 47 | 45 46 47 | (EACH • 48) SPECIFICS OTHER | (EACH • 49) SPECIFICS UNKNOWN | |
| III. Same Trafficway Opposite Direction | G. Head-On | 50 51 LATERAL MOVE | (EACH • 52) SPECIFICS OTHER | (EACH • 53) SPECIFICS UNKNOWN | | |
| | H. Forward Impact | 54 CONTROL/ TRACTION LOSS | 55 CONTROL/ TRACTION LOSS | 56 CONTROL/ TRACTION LOSS | 57 AVOID COLLISION WITH VEH. | 58 AVOID COLLISION WITH OBJECT (EACH • 62) (EACH • 63) SPECIFICS OTHER SPECIFICS UNKNOWN |
| | I. Sideswipe Angle | 64 65 LATERAL MOVE | (EACH • 66) SPECIFICS OTHER | (EACH • 67) SPECIFICS UNKNOWN | | |
| IV. Change Trafficway Vehicle Turning | J. Turn Across Path | 68 69 INITIAL OPPOSITE DIRECTIONS | 70 71 72 INITIAL SAME DIRECTIONS | (EACH • 74) (EACH • 75) SPECIFICS OTHER SPECIFICS UNKNOWN | | |
| | K. Turn Into Path | 76 77 78 TURN INTO SAME DIRECTION | 79 80 81 82 83 TURN INTO OPPOSITE DIRECTIONS | (EACH • 84) (EACH • 85) SPECIFICS OTHER SPECIFICS UNKNOWN | | |
| V. Intersecting Paths (Vehicle Damage) | L. Straight Paths | 86 87 | 88 89 | (EACH • 90) SPECIFICS OTHER | (EACH • 91) SPECIFICS UNKNOWN | |
| VI. Miscellaneous | M. Backing Etc. | 92 BACKING VEH. | 93 OTHER VEH. OR OBJECT | 98 Other Accident Type 99 Unknown Accident Type 00 No Impact | | |

OCCUPANT RELATED

37. Driver Presence in Vehicle 1
(0) Driver not present
(1) Driver present
(9) Unknown
38. Number of Occupants This Vehicle 01
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown
39. Number of Occupant Forms Submitted 01

AIR BAG RELATED

40. Is this an AOPS Vehicle? 0
(0) No (includes unknown)
(1) Yes - researcher determined
(2) VIN determined air bag system
(3) VIN determined automatic (passive) belts
(4) VIN determined air bag and automatic (passive) belts
41. Air Bag(s) Deployment, First Seat Frontal 0
(0) Not equipped or not available
(1) No air bags deployed
Single Air Bag Vehicle
(2) Driver air bag deployed
(3) Driver air bag, unknown if deployed
Multiple Air Bag Vehicle
(4) Driver side only deployed
(5) Passenger side only deployed
(6) Driver and passenger side deployed
(7) Driver and passenger side unknown if deployed
(8) Air bag(s) deployed, details unknown
(9) Unknown
42. Air Bag(s) Deployment, Other Than First Seat Frontal 0
(0) Not equipped with an "other" air bag
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Specify type of "other" air bag present: _____

VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight 1,230
1,229 Code weight to nearest 10 kilograms.
(045) Less than 454 kilograms
(612) 6,124 kilograms or more
(999) Unknown
_____ lbs X .4536 = _____ kgs

Source: _____

44. Vehicle Cargo Weight 0.000
Code weight to nearest 10 kilograms.
(000) Less than 5 kilograms
(454) 4,536 kilograms or more
(999) Unknown

_____ lbs X .4536 = _____ kgs

Source: _____

ROLLOVER DATA

45. Rollover 00
(00) No rollover (no overturning)
Rollover (primarily about the longitudinal axis)
(01-16) Code the number of quarter turns Rollover, 17 or more quarter turns (specify): _____
(98) Rollover--end-over-end (i.e., primarily about the lateral axis)
(99) Rollover (overturn), details unknown
46. Rollover Initiation Type 00
(00) No rollover
(01) Trip-over
(02) Flip-over
(03) Turn-over
(04) Climb-over
(05) Fall-over
(06) Bounce-over
(07) Collision with another vehicle
(08) Other rollover initiation type specify): _____
(98) Rollover--end-over-end
(99) Unknown rollover initiation type
47. Location of Rollover Initiation 0
(0) No rollover
(1) On roadway
(2) On shoulder--paved
(3) On shoulder--unpaved
(4) On roadside or divided trafficway median
(8) Rollover--end-over-end
(9) Unknown
48. Rollover Initiation Object Contacted 00
(Note: Applicable codes on back of page)
49. Location on Vehicle Where Initial Principal Tripping Force Is Applied 0
(0) No rollover
(1) Wheels/tires
(2) Side plane
(3) End plane
(4) Undercarriage
(5) Other location on vehicle (specify): _____
(6) Non-contact rollover forces (specify): _____
(8) Rollover--end-over-end
(9) Unknown
50. Direction of Initial Roll 0
(0) No rollover
(1) Roll right - primarily about the longitudinal axis
(2) Roll left - primarily about the longitudinal axis
(8) Rollover--end-over-end
(9) Unknown roll direction

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
(01-30) — Vehicle Number

Noncollision

- (31) Turn-over — fall-over
(32) No rollover impact initiation (end-over-end)
(34) Jackknife

Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
(42) Tree (> 10 cm in diameter)
(43) Shrubbery or bush
(44) Embankment

- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
(51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
(52) Pole or post (> 30 cm in diameter)
(53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic barrier (includes guardrail)
(specify): _____

- (57) Fence
(58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify): _____

- (69) Unknown fixed object _____

Collision with Nonfixed Object

- (70) Passenger car, light truck, van, or other vehicle not in-transport
(71) Medium/heavy truck or bus not in-transport
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(79) Object fell from vehicle in-transport
(88) Other nonfixed object (specify): _____

- (89) Unknown nonfixed object _____

- (98) Other event (specify): _____

- (99) Unknown event or object _____

OVERRIDE/UNDERRIDE (THIS VEHICLE)

51. Front Override/Underride (this Vehicle) 0
52. Rear Override/Underride (this Vehicle) 0
- (0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride
- Override (see specific CDC)*
[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]
- (1) 1st CDC
 (2) 2nd CDC
 (3) Other not automated CDC (specify):

- Underride (see specific CDC)*
[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]
- (4) 1st CDC
 (5) 2nd CDC
 (6) Other not automated CDC (specify):

- (7) Medium/heavy truck or bus override (of any configuration)
 (9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
 (996) Non-horizontal impact
 (997) Noncollision
 (998) Impact with object
 (999) Unknown

53. Heading Angle For This Vehicle 005
54. Heading Angle For Other Vehicle 163

RECONSTRUCTION DATA

55. Towed Trailing Unit 0
- (0) No towed unit
 (1) Yes—towed trailing unit
 (9) Unknown
56. Documentation of Trajectory Data for This Vehicle 1
- (0) No
 (1) Yes
57. Post Collision Condition of Tree or Pole (For Highest Delta V) 0
- (0) Not collision (for highest delta V) with tree or pole
 (1) Not damaged
 (2) Cracked/sheared
 (3) Tilted <45 degrees
 (4) Tilted ≥45 degrees
 (5) Uprooted tree
 (6) Separated pole from base
 (7) Pole replaced
 (8) Other (specify):

- (9) Unknown

ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V

58. Basis for Total (Resultant) Delta V (highest) 02

(00) No vehicle inspection

Delta V Calculated

- (01) Reconstruction program-damage only routine
 (02) Reconstruction program-damage and trajectory routine
 (03) Missing vehicle algorithm

Delta V Not Calculated

- (04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

All vehicles within scope (CDC applicable) of reconstruction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.

- (05) Rollover
 (06) Other non-horizontal forces
 (07) Sideswipe type damage
 (08) Severe override
 (09) Yielding object
 (10) Overlapping damage
 (11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify):

(98) Other, (specify): _____

COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V Highest0 4 1 Nearest kmph (highest) Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
 (160) 159.5 kmph and above
 (999) Unknown

60. Longitudinal Component of Delta V Highest+ 0 0 3 9 Nearest kmph (highest) Nearest kmph (secondary)

(NOTE: 000 means greater than
 -0.5 kmph and less than +0.5 kmph)
 (±160) ±159.5 kmph and above
 (999) Unknown

61. Lateral Component of Delta V Highest+ 0 1 1 Nearest kmph (highest) Nearest kmph (secondary)

(NOTE: 000 means greater than -0.5 kmph and
 less than +0.5 kmph)
 (±160) ±159.5 kmph and above
 (999) Unknown

62. Energy Absorption Highest0 2 8 3 0 028,281 Nearest 100 joules (highest) Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)
 (9997) 999,650 joules or more
 (9999) Unknown

63. Impact Speed Highest0 6 0 Nearest kmph (highest) Nearest kmph (secondary)

(NOTE: 000 means
 less than 0.5 kmph)
 (160) 159.5 kmph and above
 (998) Trajectory algorithm not run
 (999) Unknown

DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program
Results (For Highest Delta V)

- (0) No reconstruction 1
 (1) Collision fits model — results appear reasonable
 (2) Collision fits model — results appear high
 (3) Collision fits model — results appear low
 (4) Borderline reconstruction — results appear reasonable

OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed Highest0 2 4 Nearest kmph (highest) Nearest kmph (secondary)

(NOTE: 000 means
 less than 0.5 kmph)
 (160) 159.5 kmph and above
 (999) Unknown

ESTIMATED DELTA V

INSPECTION TYPE

66. Estimated Highest Delta V (Researcher Determined)

0

(0) Reconstruction Delta V coded

Estimated Delta V

- (1) Less than 10 kmph
- (2) ≥ 10 kmph but < 25 kmph
- (3) ≥ 25 kmph but < 40 kmph
- (4) ≥ 40 kmph but < 55 kmph
- (5) ≥ 55 kmph

Other estimates of damage severity

- (6) Minor
- (7) Moderate
- (8) Severe
- (9) Unknown

67. Type of Vehicle Inspection

1

- (0) No inspection
- (1) Vehicle fully repaired-no damage evident
- (2) Partial inspection (specify): _____
- (3) Complete inspection

DELTA V EVENT NUMBER

68. Delta V Event Number

1

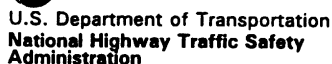
- _____ Code the accident event sequence number that resulted in the Delta V that has been coded above for this vehicle
- (99) Unknown

*** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67 = 0), ***

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

*** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE ***

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.



**NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM**

| | |
|---------------------------------|-------------------|
| CRASHWORTHINESS DATA SYSTEM | |
| 1. Primary Sampling Unit Number | 3. Vehicle Number |
| 2. Case Number - Stratum | |

VIN W B A A B 5 4 0 5 G 9 (Serial # omitted) Model Year 8 6
Vehicle Make (specify): BMW Vehicle Model (specify): 325 Es

| Locate the end of the damage with respect to the vehicle's damaged center point or bumper corner for end impacts or an undamaged axle for side impacts. | | | |
|---|---------------------------|----------------------|-----------------------|
| Specific Impact No. | Location of Direct Damage | Location of Field L | Location of Max Crush |
| 1 | 43.2cm (17.0") (R) of C | Entire frontal plane | C1 |
| | | | |
| | | | |

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

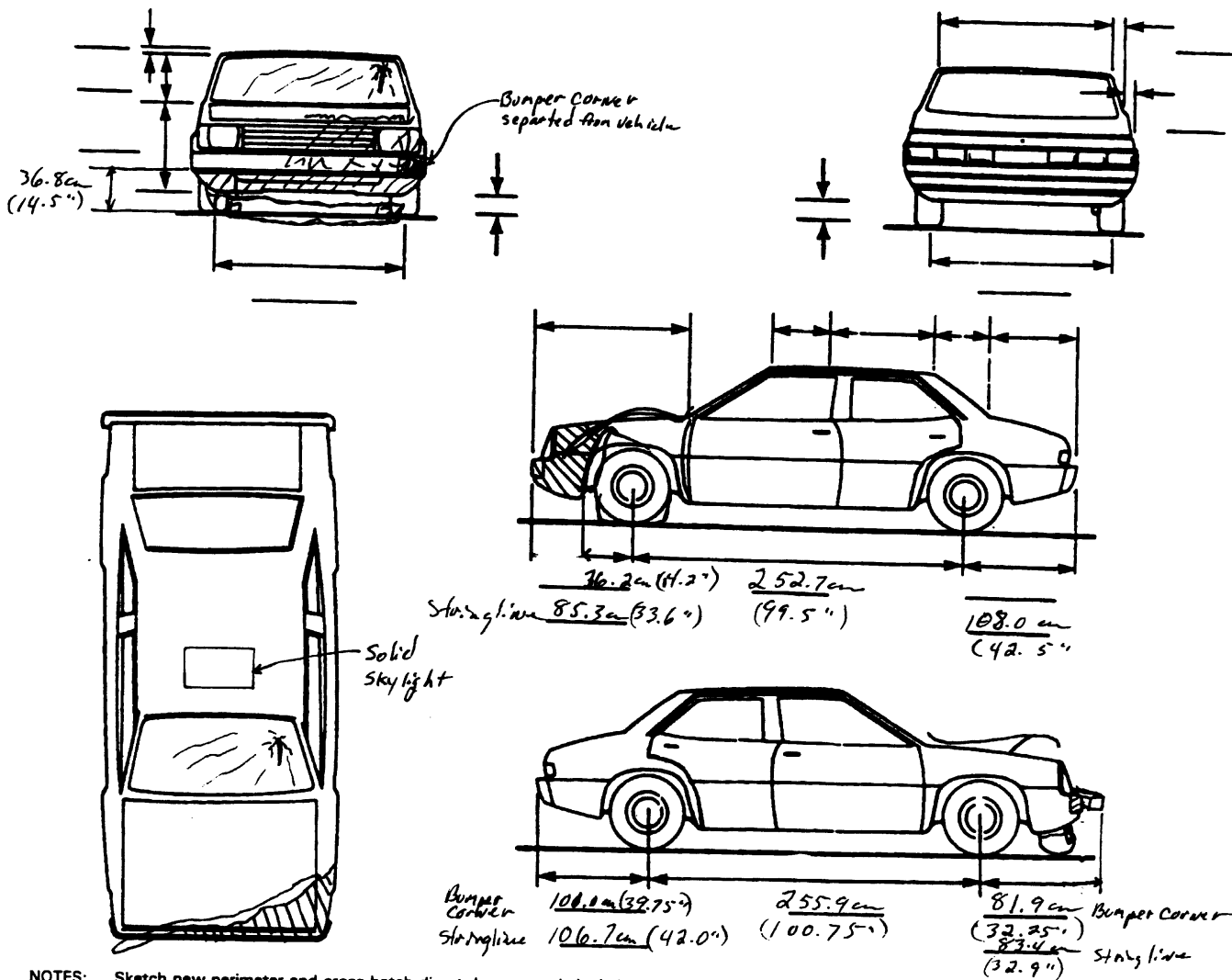
Use as many lines/columns as necessary to describe each damage profile.

[illegible]

VEHICLE DAMAGE SKETCH

| | | | | | |
|--|--|---|--|---|--|
| TIRE—WHEEL DAMAGE a. Rotation physically restricted RF <u>2</u> LF <u>1</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk. | | ORIGINAL SPECIFICATIONS Wheelbase <u>(101.2") 257.0</u> cm Overall Length <u>(175.6") 446.0</u> cm Maximum Width <u>(64.8") 164.6</u> cm Curb Weight <u>(2,700 lb) 1,229</u> kg Average Track <u>(55.6") 141.2</u> cm Front Overhang <u>(33.4") 85.3</u> cm Rear Overhang <u>(42") 106.7</u> cm Undeformed End Width <u>(56.0") 142.2</u> cm Engine Size: cyl./displ. <u>2.693</u> L <u>(2693 cm³)</u> | | WHEEL STEER ANGLES (For locked front wheels or displaced rear axles only) RF ± <u>0</u> ° LF ± <u>0</u> ° RR ± <u>0</u> ° LR ± <u>0</u> ° Within ± 5 degrees | |
| TYPE OF TRANSMISSION <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Automatic END SHIFT ≥ 10 CM <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | DRIVE WHEELS <input type="checkbox"/> FWD <input checked="" type="checkbox"/> RWD <input type="checkbox"/> 4WD | |
| | | | | Approximate Cargo Weight <u>None</u> kg | |

MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CODES FOR OBJECT CONTACTED

(57) Fence

(58) Wall

- (58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify):

(69) Unknown fixed object

Collision with Nonfixed Object

(70) Passenger car, light truck, van, or other vehicle not in-transport

(71) Medium/heavy truck or bus not in-transport

- (72) Pedestrian
(73) Cyclist or cycle
(74) Other nonmotorist or conveyance

(75) Vehicle occupant

(76) Animal

- (77) Train
(78) Trailer, disconnected in transport
(79) Object fell from vehicle in-transport
(88) Other nonfixed object (specify):

(89) Unknown nonfixed object

(98) Other event (specify):

(99) Unknown event or object

(99) Unknown event or object

[illegible]

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

| Accident Event Sequence Number | Object Contacted | (1) (2) Direction of Force | (3) Deformation Location | (4) Longitudinal or Lateral Location | (5) Vertical or Lateral Location | (6) Type of Damage Distribution | (7) Deformation Extent |
|---|---------------------|----------------------------------|--------------------------------|---|---|--|------------------------------|
| 4. <u>01</u> | 5. <u>01</u> | 6. <u>11</u> | 7. <u>F</u> | 8. <u>D</u> | 9. <u>E</u> | 10. <u>W</u> | 11. <u>02</u> |

Second Highest Delta "V"

| | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 12. _____ | 13. _____ | 14. _____ | 15. _____ | 16. _____ | 17. _____ | 18. _____ | 19. _____ |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

| | | | | | | | |
|--------------|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------|
| 20. <u>L</u> | 21. <u>C₁</u> | <u>C₂</u> | <u>C₃</u> | <u>C₄</u> | <u>C₅</u> | <u>C₆</u> | 22. <u>±D</u> |
| <u>142</u> | <u>038</u> | <u>019</u> | <u>013</u> | <u>007</u> | <u>003</u> | <u>000</u> | <u>+ 015</u> |

Second Highest Delta "V"

| | | | | | | | |
|--------------|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------|
| 23. <u>L</u> | 24. <u>C₁</u> | <u>C₂</u> | <u>C₃</u> | <u>C₄</u> | <u>C₅</u> | <u>C₆</u> | 25. <u>±D</u> |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | <u>+</u> |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | <u>-</u> |

26. Undeformed End Width

(Coded when highest severity impact is an end plane impact.)

_____ Code to the nearest centimeter

(250) 250 centimeters or more

(998) No highest severity end plane impact

(999) Unknown

142

27. Direct Damage Width

(For highest severity impact)

_____ Code to the nearest centimeter

(250) 250 centimeters or more

(999) Unknown

112

28. Original Wheelbase

_____ Code to the nearest centimeter

(650) 650 centimeters or more

(999) Unknown

_____ inches X 2.54 = _____ centimeters

257

29. Original Average Track Width

_____ Code to the nearest centimeter

(185) 185 centimeters or more

(999) Unknown

_____ inches X 2.54 = _____ centimeters

141

FUEL SYSTEM

30. Are CDCs Documented but Not Coded on The Automated File? 0
 (0) No
 (1) Yes

31. Researcher's Assessment of Vehicle Disposition 1
 (0) Not towed due to vehicle damage
 (1) Towed due to vehicle damage
 (9) Unknown

32. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? 0
 (0) No post manufacturer modifications
 (1) Yes - post manufacturer modifications (specify): _____

 (Include photograph of CERTIFICATION PLACARD in case report)
 (9) Unknown if vehicle is modified

35. Location of Fuel Tank-1 Filler Cap 3

36. Location of Fuel Tank-2 Filler Cap 0

- (0) No fuel tank
 (1) On back plane
 (2) Aft of center of the rear wheels (rear axle) on left side plane
 (3) Aft of center of the rear wheels (rear axle) on right side plane
 (4) Forward of center of the rear wheels (rear axle) on left side plane
 (5) Forward of center of the rear wheels (rear axle) on right side plane
 (6) Over the center of the rear wheels (rear axle) on left side plane
 (7) Over the center of the rear wheels (rear axle) on right side plane
 (8) Other (specify): _____
 (9) Unknown

37. Type of Fuel Tank-1 1

38. Type of Fuel Tank-2 0

- (0) No fuel tank (electrical vehicle)
 (1) Metallic
 (2) Non-metallic
 (9) Unknown

39. Location of Fuel Tank-1 4

40. Location of Fuel Tank-2 0

- (0) No fuel tank
 (1) Aft of center of the rear wheels (rear axle) centered
 (2) Aft of center of the rear wheels (rear axle) left side
 (3) Aft of center of the rear wheels (rear axle) right side
 (4) Forward of center of the rear wheels (rear axle) centered
 (5) Forward of center of the rear wheels (rear axle) left side
 (6) Forward of center of the rear wheels (rear axle) right side
 (7) Over center of the rear wheels (rear axle)
 (8) Other (specify): _____
 (9) Unknown

41. Damage to Fuel Tank-1 1

42. Damage to Fuel Tank-2 0

- (0) No fuel tank
 (1) No damage to fuel tank
 (2) Deformed, no seam failure
 (3) Deformed, with a seam failure
 (4) Punctured
 (5) Lacerated (ripped)
 (6) Abraded (scraped)
 (7) Filler neck separation from the fuel tank
 (8) Other damage (specify): _____
 (9) Unknown

FIRE OCCURRENCE

33. Fire Occurrence 0
 (0) No fire
 Yes, fire occurred
 (1) Minor
 (2) Major
 (9) Unknown

34. Origin of Fire 0
 (0) No fire
 (1) Vehicle exterior (front, side, back, top)
 (2) Exhaust system
 (3) Fuel tank (and other fuel retention system parts)
 (4) Engine compartment
 (5) Cargo/trunk compartment
 (6) Instrument panel
 (7) Passenger compartment area
 (8) Other location (specify): _____
 (9) Unknown

43. Leakage Location of Fuel System-1

1

44. Leakage Location of Fuel System-2

6

(0) No fuel tank

(1) No fuel leakage

Primary Area Of Leakage

(2) Tank

(3) Filler neck

(4) Cap

(5) Lines/pump/filter

(6) Vent/emission recovery

(8) Other (specify): _____

(9) Unknown

45. Fuel Type-1

01

46. Fuel Type-2

00*Single Fuel Type*

(00) No fuel tank

(01) Gasoline

(02) Diesel

(03) CNG (Compressed Natural Gas)

(04) LPG (Liquid Petroleum Gas) also known as Propane

(05) LNG (Liquid Natural Gas)

(06) Methanol (M100 or M85)

(07) Ethanol (E100 or E85)

(08) Other (Hydrogen or others) (specify): _____

Electric Powered or Electric/Solar Powered Vehicles

(10) Lead Acid Battery

(11) Nickel-Iron Battery

(12) Nickel-Cadmium Battery

(13) Sodium Metal Chloride Battery

(14) Sodium Sulfur Battery

(18) Other (Specify): _____

(98) Other Hybrid (specify): _____

(99) Unknown fuel type

47. Is This Vehicle Equipped With More Than Two Fuel Tanks?

0

(0) No (one or two tanks only)

Yes - More Than Two Tanks(1) Yes -- no damage to any tank or filler cap and no fuel system leakage(2) Yes -- no damage to any tank or filler cap but there is fuel system leakage (specify leakage location): _____(3) Yes -- damage to an additional tank or filler cap and there is fuel system leakage (specify the following):

Type of tank _____

Tank location _____

Filler cap location _____

Tank damage _____

Location of leakage _____

Type of fuel _____

(9) Unknown if more than two tanks

COMMENTS

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***

(GV10=0)

DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum 96-02

3. Vehicle Number 02

INTEGRITY

4. Passenger Compartment Integrity 01

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (back door)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window (backlight)

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window (side window and backlight)

(12) Windshield and side window

(13) Door and side window

(98) Other combination of above (specify):

(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 1 7. LR 0 8. RR 0 9. TG/H 0

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 = 2, Then code 0

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage

(6) Latch/striker and hinge failure due to damage

(8) Other failure (specify):

(9) Unknown

GLAZING

Type of Window/Windshield Glazing

15. WS 1 16. LF 2 17. RF 2 18. LR 2 19. RR 2

20. BL 2 21. Roof 0 22. Other 0

(0) No glazing

(1) AS-1 - Laminated

(2) AS-2 - Tempered

(3) AS-3 - Tempered-tinted (original)

(4) AS-2 - Tempered-with after market tint

(5) AS-3 - Tempered-tinted (with additional after market tint)

(6) AS-14 - Glass/Plastic

(7) Glazing removed prior to accident

(8) Other (specify):

(9) Unknown

Window Precrash Glazing Status

23. WS 1 24. LF 3 25. RF 2 26. LR 2 27. RR 2

28. BL 1 29. Roof 0 30. Other 0

(0) No glazing

(1) Fixed

(2) Closed

(3) Partially opened

(4) Fully opened

(7) Glazing removed prior to accident

(9) Unknown

Glazing Damage from Impact Forces

31. WS 1 32. LF 1 33. RF 1 34. LR 1 35. RR 1

36. BL 1 37. Roof 0 38. Other 0

(0) No glazing

(1) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(9) Unknown if damaged

Glazing Damage from Occupant Contact

39. WS 4 40. LF 1 41. RF 1 42. LR 1 43. RR 1

44. BL 1 45. Roof 0 46. Other 0

(0) No glazing

(1) No occupant contact to glazing

(2) Glazing contacted by occupant but no glazing damage

(3) Glazing in place and cracked by occupant contact

(4) Glazing in place and holed by occupant contact

(5) Glazing out-of-place (cracked or not) by occupant contact

(6) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact

(6) Glazing out-of-place by occupant contact and holed by occupant contact

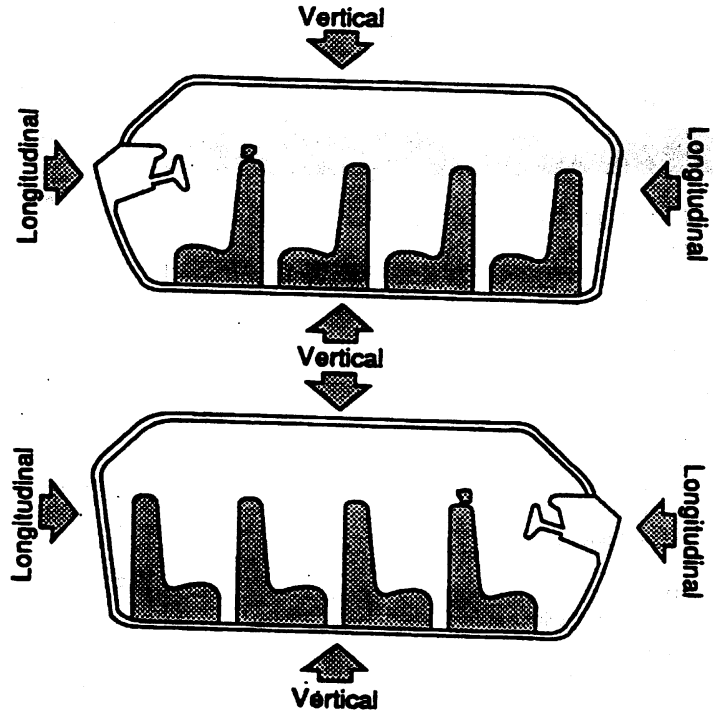
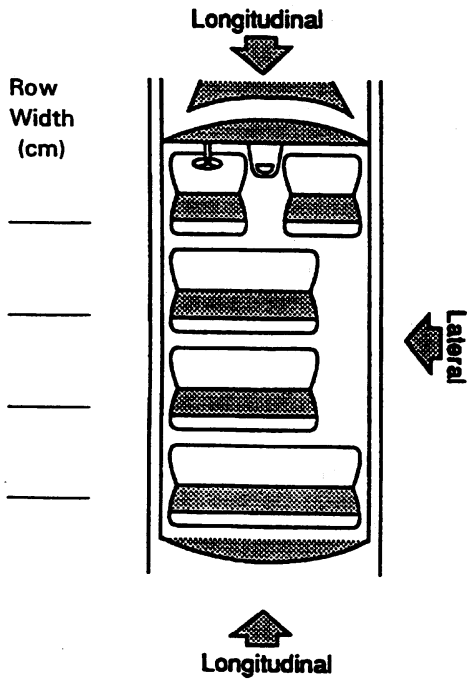
(7) Glazing removed prior to accident

(8) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

INTRUSION WORKSHEET

NOTE: SKETCH INTRUDED AREAS



| LOCATION OF INTRUSION | INTRUDED COMPONENT | (All Measurements Are In Centimeters) | | | INTRUSION | DOMINANT CRUSH DIRECTION |
|-----------------------|--------------------|---------------------------------------|---|----------------|-----------|--------------------------|
| | | COMPARISON VALUE | — | INTRUDED VALUE | = | |
| | | | — | | = | |
| | | | — | | = | |
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| | | | — | | = | |

Document no more than the 15 most severe intrusions

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

INTRUDING COMPONENT

Interior Components

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Side panel - forward of the A1/A2-pillar
- (11) Door panel (side)
- (12) Side panel - rear of the B-pillar
- (13) Roof (or convertible top)
- (14) Roof side rail
- (15) Windshield
- (16) Windshield header
- (17) Window frame
- (18) Floor pan (includes sill)
- (19) Backlight header
- (20) Front seat back
- (21) Second seat back
- (22) Third seat back
- (23) Fourth seat back
- (24) Fifth seat back
- (25) Seat cushion
- (26) Back door/panel (e.g., tailgate)
- (27) Other interior component (specify): _____

Exterior Components

- (30) Hood
- (31) Outside surface of this vehicle (specify): _____
- (32) Other exterior object in the environment (specify): _____
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): _____
- (99) Unknown

| | Location of Intrusion | Intruding Component | Magnitude of Intrusion | Dominant Crush Direction |
|------|-----------------------|---------------------|------------------------|--------------------------|
| 1st | 47. _____ | 48. _____ | 49. _____ | 50. _____ |
| 2nd | 51. _____ | 52. _____ | 53. _____ | 54. _____ |
| 3rd | 55. _____ | 56. _____ | 57. _____ | 58. _____ |
| 4th | 59. _____ | 60. _____ | 61. _____ | 62. _____ |
| 5th | 63. _____ | 64. _____ | 65. _____ | 66. _____ |
| 6th | 67. _____ | 68. _____ | 69. _____ | 70. _____ |
| 7th | 71. _____ | 72. _____ | 73. _____ | 74. _____ |
| 8th | 75. _____ | 76. _____ | 77. _____ | 78. _____ |
| 9th | 79. _____ | 80. _____ | 81. _____ | 82. _____ |
| 10th | 83. _____ | 84. _____ | 85. _____ | 86. _____ |

LOCATION OF INTRUSION

Front Seat
 (11) Left
 (12) Middle
 (13) Right

Fourth Seat
 (41) Left
 (42) Middle
 (43) Right

Second Seat
 (21) Left
 (22) Middle
 (23) Right

(97) Catastrophic
 (98) Other enclosed area (specify) _____

(99) Unknown

Third Seat
 (31) Left
 (32) Middle
 (33) Right

MAGNITUDE OF INTRUSION

- (1) ≥ 3 centimeters but < 8 centimeters
- (2) ≥ 8 centimeters but < 15 centimeters
- (3) ≥ 15 centimeters but < 30 centimeters
- (4) ≥ 30 centimeters but < 46 centimeters
- (5) ≥ 46 centimeters but < 61 centimeters
- (6) ≥ 61 centimeters
- (7) Catastrophic
- (9) Unknown

DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

| COMPARISON VALUE | — | DAMAGE VALUE | = | DEFORMATION |
|------------------|---|--------------|---|-------------|
|------------------|---|--------------|---|-------------|

| | | | | |
|-------------------------------|---|--|---|--|
| No Steering wheel Deformation | | | = | |
| | — | | = | |
| | — | | = | |
| | — | | = | |

STEERING COLUMN

INSTRUMENT PANEL

87. Steering Column Type 1

- (1) Fixed column
 (2) Tilt column
 (3) Telescoping column
 (4) Tilt and telescoping column
 (8) Other column type (specify): _____

(9) Unknown

88. Tilt Steering Column Adjustment 0

- (0) No tilt steering column
 (1) Full up
 (2) Between full up and center
 (3) Center
 (4) Between center and full down
 (5) Full down
 (9) Unknown

89. Telescoping Steering Column Adjustment 0

- (0) No telescoping steering column
 (1) Full back
 (2) Between full back and midpoint
 (3) Midpoint
 (4) Between midpoint and full forward
 (5) Full forward
 (9) Unknown

90. Steering Rim/Spoke Deformation 00

- Code actual measured
 deformation to the nearest centimeter
 (00) No steering rim deformation
 (01-14) Actual measured value in centimeters
 (15) 15 centimeters or more
 (98) Observed deformation cannot be measured
 (99) Unknown

91. Location of Steering Rim/Spoke Deformation 00

- (00) No steering rim deformation

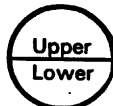
Quarter Sections

- (01) Section A
 (02) Section B
 (03) Section C
 (04) Section D



Half Sections

- (05) Upper half of rim/spoke
 (06) Lower half of rim/spoke
 (07) Left half of rim/spoke
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse
 (10) Undetermined location
 (99) Unknown

92. Odometer Reading 1 7 8,000

kilometers

Code to the nearest 1,000 kilometers

- (000) No odometer
 (001) Less than 1,500 kilometers
 (500) 499,500 kilometers or more
 (999) Unknown

110,829 miles X 1.6093 = 178,357 kilometers

Source: _____

93. Instrument Panel Damage from Occupant Contact? 1

- (0) No
 (1) Yes
 (9) Unknown

94. Type of Knee Bolster Covering 0

- (0) No knee bolster
 (1) Padded
 (2) Rigid plastic
 (8) Other (specify): _____
 (9) Unknown

95. Knee Bolsters Deformed from Occupant Contact? 0

- (0) No knee bolster
 (1) No deformation
 (2) Yes - deformation
 (9) Unknown

96. Did Glove Compartment Door Open During Collision(s)? 1

- (0) No glove compartment door
 (1) No - door did not open
 (2) Yes - door opened
 (9) Unknown

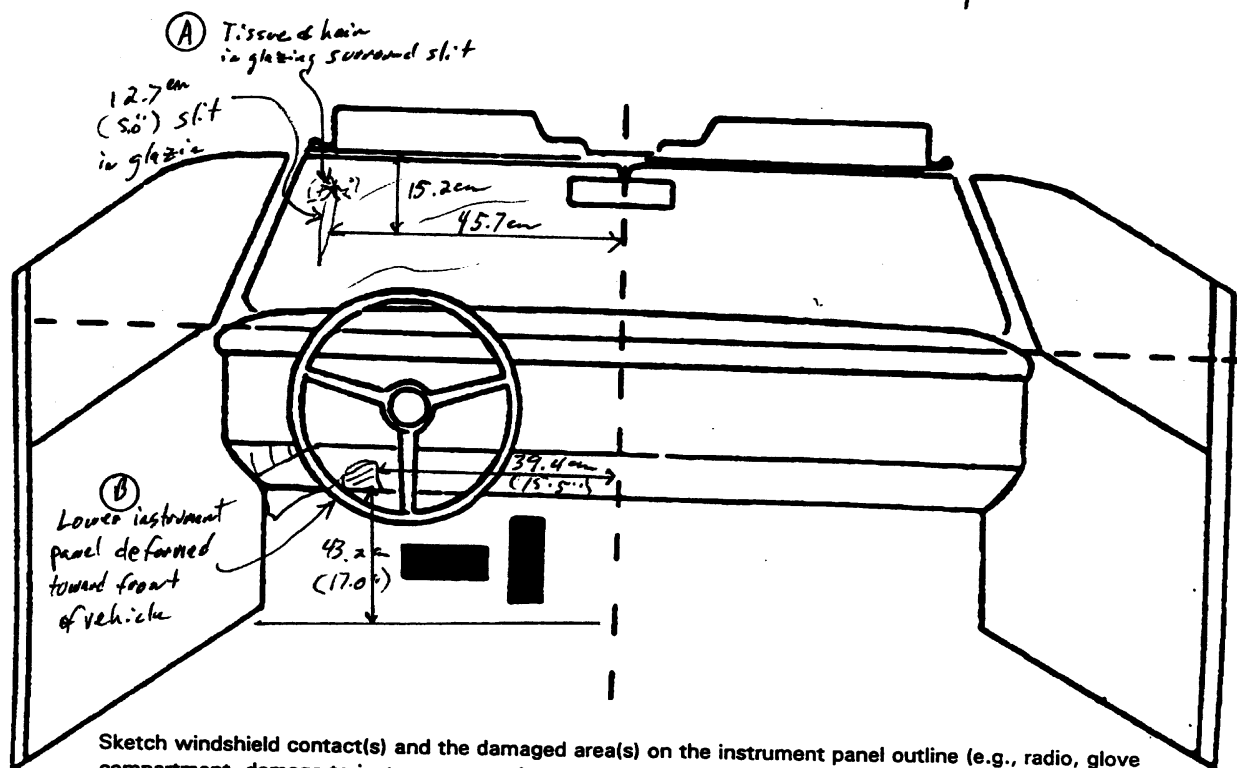
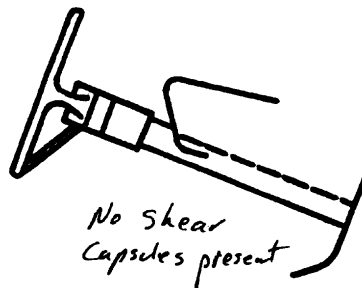
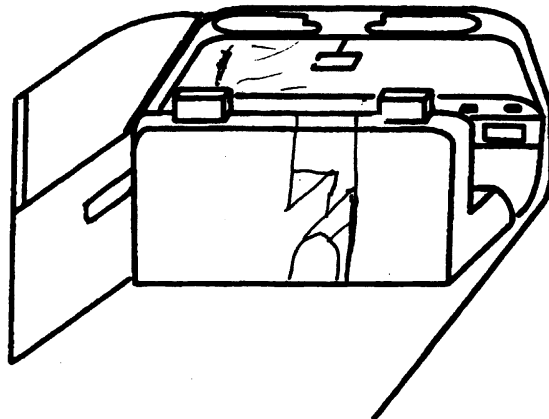
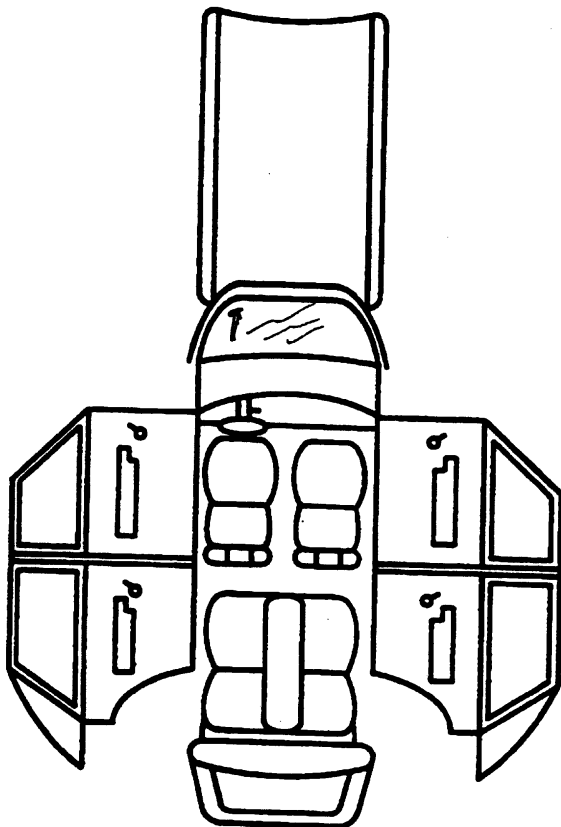
97. Adaptive (Assistive) Driving Equipment 0

- (0) No adaptive driving equipment
 (1) Adaptive driving equipment installed
 (Check all that apply.)
☐ Hand controls for braking/acceleration
☐ Steering control devices (attached to OEM steering wheel)
☐ Steering knob attached to steering wheel
☐ Low effort power steering (unit or device)
☐ Replacement steering wheel (i.e., reduced diameter)
☐ Joy-stick steering controls
☐ Wheelchair tie-downs
☐ Modification to seat belts (specify): _____
☐ Additional or relocated switches (specify): _____
☐ Raised roof
☐ Wall-mounted head rest (used behind wheelchair)
☐ Other adaptive device (specify): _____

(9) Unknown

VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure.
Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.
Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

| Contact | Interior Component Contacted | Occupant No. If Known | Body Region If Known | Supporting Physical Evidence | Confidence Level of Contact Point |
|---------|------------------------------|-----------------------|----------------------|---|-----------------------------------|
| A | 001 | 1 | Head | Typical spider web pattern with hair & tissue noted to glass along the side | 1 |
| B | 010 | 1 | (L)Knee | Instrument panel displaced forward | 1 |
| C | | | | | |
| D | | | | | |
| E | | | | | |
| F | | | | | |
| G | | | | | |
| H | | | | | |
| I | | | | | |
| J | | | | | |
| K | | | | | |
| L | | | | | |
| M | | | | | |
| N | | | | | |

FRONT

- (001) Windshield
 (002) Mirror
 (003) Sunvisor
 (004) Steering wheel rim
 (005) Steering wheel hub/spoke
 (006) Steering wheel (combination of codes 004 and 005)
 (007) Steering column, transmission selector lever, other attachment
 (008) Cellular telephone or CB radio
 (009) Add on equipment (e.g., tapedeck, air conditioner)
 (010) Left instrument panel and below
 (011) Center instrument panel and below
 (012) Right instrument panel and below
 (013) Glove compartment door
 (014) Knee bolster
 (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
 (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
 (017) Windshield reinforced by exterior object, (specify):
 (019) Other front object (specify):

CODES FOR INTERIOR COMPONENTS

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
 (052) Left side hardware or armrest
 (053) Left A (A1/A2)-pillar
 (054) Left B-pillar
 (055) Other left pillar (specify):
 (056) Left side window glass
 (057) Left side window frame
 (058) Left side window sill
 (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (060) Other left side object (specify):
 RIGHT SIDE
 (101) Right side interior surface, excluding hardware or armrests
 (102) Right side hardware or armrest
 (103) Right A (A1/A2)-pillar
 (104) Right B-pillar
 (105) Other right pillar (specify):
 (106) Right side window glass
 (107) Right side window frame
 (108) Right side window sill
 (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
 (110) Other right side object (specify):

INTERIOR

- (151) Seat, back support
 (152) Belt restraint webbing/buckle
 (153) Belt restraint B-pillar or door frame attachment point
 (154) Other restraint system component (specify):
 (155) Head restraint system
 (160) Other occupants (specify):
 (161) Interior loose objects
 (162) Child safety seat (specify):
 (163) Other interior object (specify):

AIR BAG

- (170) Air bag-driver side
 (175) Air bag compartment cover-driver side
 (180) Air bag-passenger side
 (185) Air bag compartment cover-passenger side
 (190) Other air bag (specify):
 (195) Other air bag compartment cover (specify):

ROOF

- (201) Front header
 (202) Rear header
 (203) Roof left side rail
 (204) Roof right side rail
 (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
 (252) Floor or console mounted transmission lever, including console
 (253) Parking brake handle
 (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
 (302) Backlight storage rack, door, etc.
 (303) Other rear object (specify):

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
 (402) Steering control devices (attached to OEM steering wheel)
 (403) Steering knob attached to steering wheel
 (405) Replacement steering wheel (i.e., reduced diameter)
 (406) Joy stick steering controls
 (407) Wheelchair tie-downs
 (408) Modification to seat belts, (specify):
 (409) Additional or relocated switches, (specify):
 (410) Raised roof
 (411) Wall mounted head rest (used behind wheel chair)
 (412) Other adaptive device (specify):

CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
 (2) Probable
 (3) Possible
 (9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page 11.

If the vehicle has automatic restraints available, encode the appropriate data on page 6.

| | | Left | Center | Right |
|--------|------------------------|------|--------|-------|
| FIRST | A-Availability | 04 | | 04 |
| | B-Evidence of usage | 00 | | 00 |
| | C-Used in this crash? | 00 | | 00 |
| | D-Proper Use | 0 | | 0 |
| | E-Failure Modes | 0 | | 0 |
| | F-Anchorage Adjustment | 1 | | 1 |
| SECOND | A-Availability | 04 | 03 | 04 |
| | B-Evidence of usage | 00 | 00 | 00 |
| | C-Used in this crash? | 00 | 00 | 00 |
| | D-Proper Use | 0 | 0 | 0 |
| | E-Failure Modes | 0 | 0 | 0 |
| | F-Anchorage Adjustment | 1 | 0 | 1 |
| OTHER | A-Availability | | | 1 |
| | B-Evidence of usage | | | |
| | C-Used in this crash? | | | |
| | D-Proper Use | | | |
| | E-Failure Modes | | | |
| | F-Anchorage Adjustment | | | |

A-Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

- (9) Unknown

B/C-Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown
- (08) Other belt used (specify):
- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

D-Proper Use of Manual (Active) Belts

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):
- (8) Other improper use of manual belt system (specify):
- (9) Unknown

E-Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other manual belt failure (specify):
- (9) Unknown

F-Shoulder Belt Upper Anchorage Adjustment

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

| | | Frontal Air Bags--Left Front | Frontal Air Bags--Right Front | Other Air Bag |
|-----------------------|-----------------------|------------------------------|-------------------------------|---------------|
| F I R S T | Availability/Function | 0 | 0 | 0 |
| | Deployment | 0 | 0 | 0 |
| | Failure | 0 | 0 | 0 |

Air Bag System Availability/Function

- (0) Not equipped/not available
(1) Air bag

Non-functional

- (2) Air bag disconnected (specify): _____

- (3) Air bag not reinstalled

- (9) Unknown

Air Bag System Deployment

(This Occupant Position)

- (0) Not equipped/not available
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, accident sequence undetermined
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Are There Indications of Air Bag

System Failure? (This Occupant Position)

- (0) Not equipped/not available

- (1) No

- (2) Yes (specify): _____

- (9) Unknown

AUTOMATIC BELTS

| | | Left | Right |
|-----------------------|-------------------------|------|-------|
| F I R S T | A-Availability/Function | 0 | 0 |
| | B-Use | / | / |
| | C-Type | | |
| | D-Proper Use | | |
| | E-Failure Modes | | |

A-Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
(9) Unknown

B-Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)
(3) Automatic belt use unknown
(9) Unknown

C-Automatic (Passive) Belt System Type

- (0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

D-Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): _____

- (8) Other improper use of automatic belt system (specify): _____
(9) Unknown

E-Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify): _____
(6) Broken retractor
(7) Combination of above (specify): _____
(8) Other automatic belt failure (specify): _____
(9) Unknown

FIRST SEAT FRONTAL AIR BAGS

NOTES: Encode the applicable data *for the driver and first seat passenger* in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

| | Driver | Passenger |
|-----------------------------------|--------|-----------|
| A-Type of air bag? | 0 | 0 |
| B-Flaps open at tear points? | | |
| C-Flaps damaged? | | |
| D-Air bag damaged? | | |
| E-Source of air bag damage | | |
| F-Air bag tethered? | | |
| G-Air bag have vent ports? | | |
| H-Other occupant contact air bag? | | |
| I-Occupant wearing eyewear? | | |

A-Type of Air Bag

- (0) Not equipped/not available
- (1) Original manufacturer installed system
- (2) Retrofitted air bag
- (3) Replacement air bag
- (8) Unknown type of air bag
- (9) Unknown

B-Did Air Bag Module Cover Flap(s) Open At Designated Tear Points?

- (0) Not equipped/not available
- (1) No
- (2) Yes
- (3) Deployed, unknown if flap(s) opened at designated tear points
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

C-Were Air Bag Module Cover Flap(s) Damaged?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if air bag module cover flap(s) damaged
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

D-Was There Damage To The Air Bag?

- (00) Not equipped/not available
- (01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
- (03) Cut
- (04) Torn
- (05) Holed
- (06) Burned
- (07) Abraded
- (88) Other damage (specify):

- (95) Damaged, details unknown
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

E-Source of Air Bag Damage

- (00) Not equipped/not available
- (01) Not damaged
- (02) Object worn by occupant, (specify):
- (03) Object carried by occupant, (specify):
- (04) Adaptive/assistive controls, (specify):
- (05) Fire in vehicle
- (06) Thermal burns
- (07) Rescue or emergency efforts
- (88) Other damage source (specify):
- (95) Damaged, unknown source
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

F-Was The Air Bag Tethered?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of tether straps):
- (3) Deployed, unknown if tethered
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

G-Did The Air Bag Have Vent Ports?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of vent ports):
- (3) Deployed, unknown if vent ports present
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

H-Was the Air Bag in this Occupant's Position Contacted by Another Occupant?

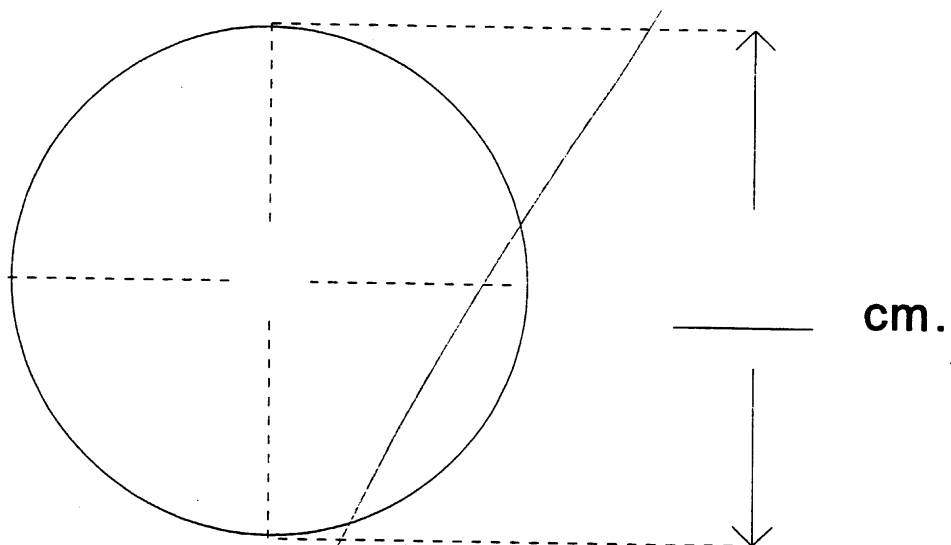
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if other occupant contact to air bag
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

I-Was This Occupant Wearing Eye-wear?

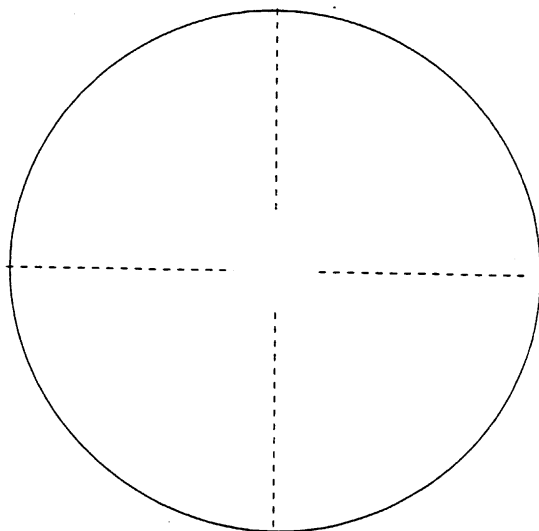
- (0) Not equipped/not available
- (1) No
- (2) Eyeglasses/sunglasses
- (3) Contact lenses
- (4) Deployed, unknown if eyewear worn
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

DRIVER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Back)

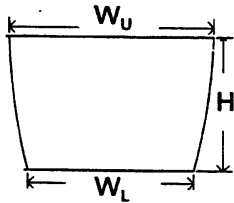


DRIVER AIR BAG SKETCHES (Cont'd)

3. DRIVER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W_U) _____ width (W_L) _____

height (H) _____



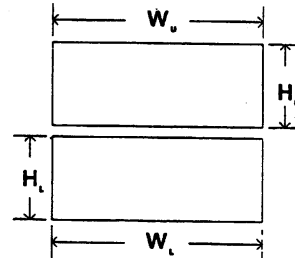
4. DRIVER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

b. Lower Flap

width (W_U) _____ width (W_L) _____

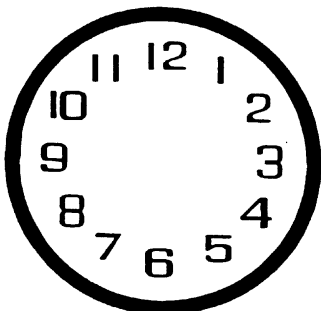
height (H_U) _____ height (H_L) _____



5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

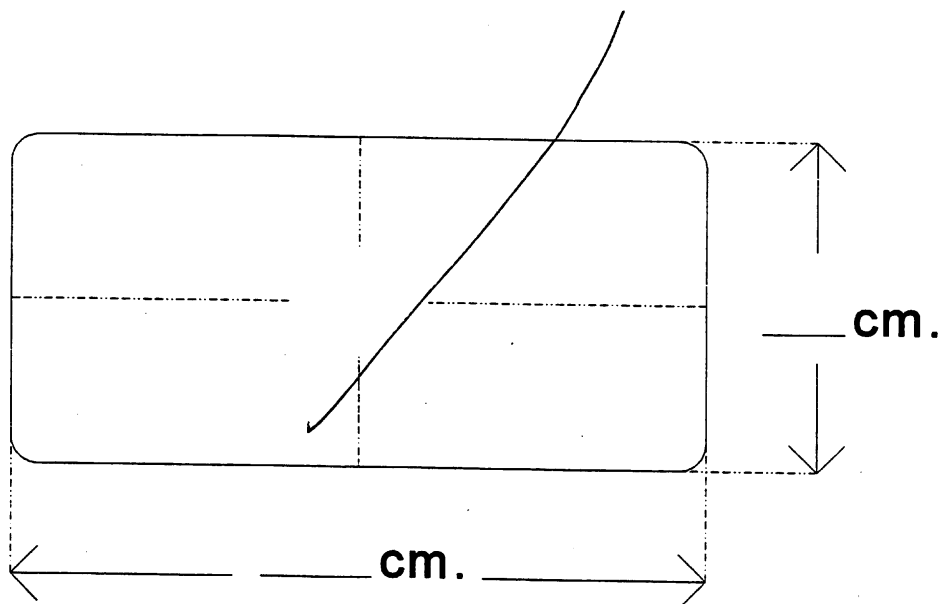
6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF CIRCULAR AIR BAG VENT PORTS

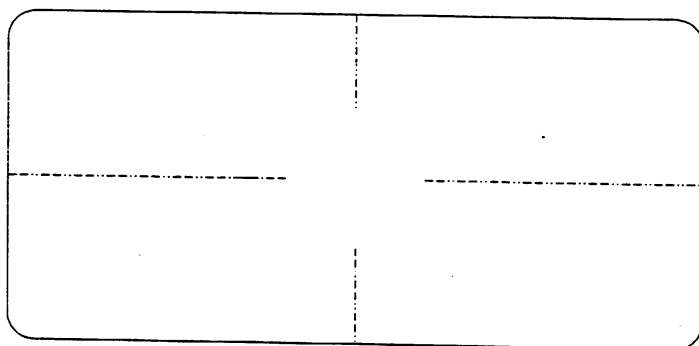


PASSENGER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Back)

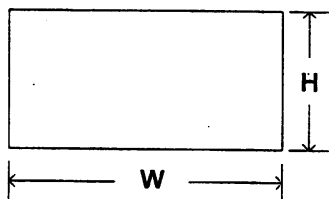


PASSENGER AIR BAG SKETCHES (Cont'd)

3. PASSENGER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W) _____

height (H) _____



4. PASSENGER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

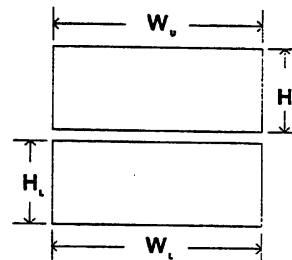
b. Lower Flap

width (W_U) _____

width (W_L) _____

height (H_U) _____

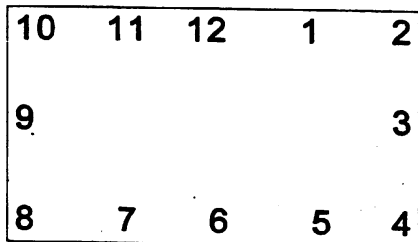
height (H_L) _____



5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

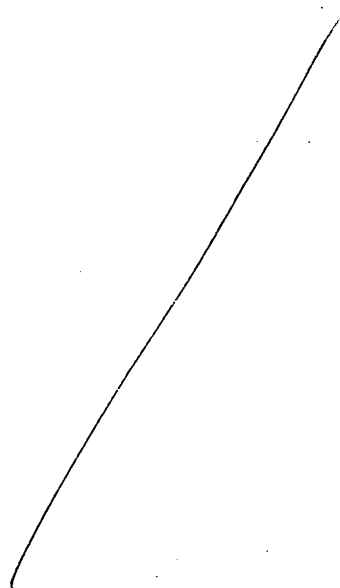
6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF RECTANGULAR AIR BAG VENT PORTS



"OTHER" AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Back)

"OTHER" AIR BAG SKETCHES (Cont'd)

3. SKETCH AIR BAG MODULE FLAP AND SIZE OR OPENING FOR AIRBAG

4. SKETCH AIR BAG VENT PORTS

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

| | | Left | Center | Right |
|--------|-------------------------------------|------|--------|-------|
| FIRST | A-Head Restraint Type/Damage | 3 | / | 3 |
| | B-Seat Type | 02 | | 02 |
| | C-Seat Orientation | 1 | | 1 |
| | D-Seat Track Position | 5 | | 5 |
| | E-Seat Back Incline Pre/Post Impact | 23 | | 23 |
| | F-Seat Performance | 1 | | 1 |
| SECOND | A-Head Restraint Type/Damage | 0 | 0 | 0 |
| | B-Seat Type | 03 | 03 | 03 |
| | C-Seat Orientation | 1 | 1 | 1 |
| | D-Seat Track Position | 01 | 01 | 01 |
| | E-Seat Back Incline Pre/Post Impact | 01 | 01 | 01 |
| | F-Seat Performance | 1 | 1 | 1 |
| THIRD | A-Head Restraint Type/Damage | / | / | / |
| | B-Seat Type | / | / | / |
| | C-Seat Orientation | / | / | / |
| | D-Seat Track Position | / | / | / |
| | E-Seat Back Incline Pre/Post Impact | / | / | / |
| | F-Seat Performance | / | / | / |
| OTHER | A-Head Restraint Type/Damage | / | / | / |
| | B-Seat Type | / | / | / |
| | C-Seat Orientation | / | / | / |
| | D-Seat Track Position | / | / | / |
| | E-Seat Back Incline Pre/Post Impact | / | / | / |
| | F-Seat Performance | / | / | / |

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE
(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

HEAD RESTRAINTS/SEAT EVALUATION

A-Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other (specify): _____
- (9) Unknown

B-Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Box mounted seat (i.e., van type)
- (10) Other seat type (specify): _____
- (99) Unknown

C-Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): _____
- (9) Unknown

D-Seat Track Adjusted Position Prior To Impact

- (0) Occupant not seated or no seat
- (1) Non-adjustable seat track
- Adjustable Seat Track**
- (2) Seat at forward most track position
- (3) Seat between forward most and middle track positions
- (4) Seat at middle track position
- (5) Seat between middle and rear most track positions
- (6) Seat at rear most track position
- (9) Unknown

E-Seat Back Incline Prior and Post Impact

- (00) Occupant not seated or no seat
- (01) Not adjustable

Upright prior to impact

- (11) Moved to completely rearward position
- (12) Moved to rearward midrange position
- (13) Moved to slightly rearward position
- (14) Retained pre-impact position
- (15) Moved to slightly forward position
- (16) Moved to forward midrange position
- (17) Moved to completely forward position

Slightly reclined prior to impact

- (21) Moved to completely rearward position
- (22) Moved to rearward midrange position
- (23) Retained pre-impact position
- (24) Moved to upright position
- (25) Moved to slightly forward position
- (26) Moved to forward midrange position
- (27) Moved to completely forward position

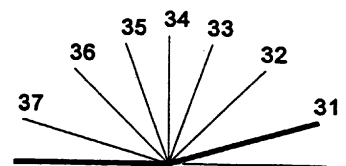
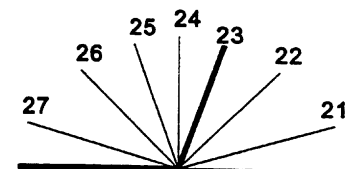
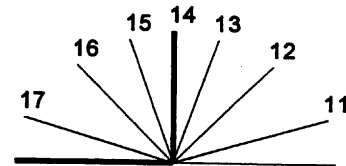
Completely reclined prior to impact

- (31) Retained pre-impact position
- (32) Moved to rearward midrange position
- (33) Moved to slightly rearward position
- (34) Moved to upright position
- (35) Moved to slightly forward position
- (36) Moved to forward midrange position
- (37) Moved to completely forward position

- (99) Unknown

F-Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): _____
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): _____
- (7) Combination of above (specify): _____
- (8) Other (specify): _____
- (9) Unknown

Coding diagrams for *Seat Back Incline Position Prior and Post Impact*

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

| | | | | | | |
|------------------------------------|--|--|--|--|--|--|
| Occupant Number | | | | | | |
| 1. Type of Child Safety Seat | | | | | | |
| 2. Child Safety Seat Orientation | | | | | | |
| 3. Child Safety Seat Harness Usage | | | | | | |
| 4. Child Safety Seat Shield Usage | | | | | | |
| 5. Child Safety Seat Tether Usage | | | | | | |
| 6. Child Safety Seat Make/Model | Specify Below for Each Child Safety Seat | | | | | |

1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify): _____
- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify): _____
- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify): _____

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify): _____

- (29) Unknown orientation

- (99) Unknown if child safety seat used

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

- 5. Child Safety Seat Tether Usage
- Note: Options Below Are Used for Variables 3-5.
- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

- 6. Child Safety Seat Make/Model
- (Specify make/model and occupant number)

EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [-] Yes [☒]

Describe indications of ejection and body parts involved in partial ejection(s):

Driver's head penetrated windshield & was partially ejected

| | | | | | | |
|--|----|--|--|--|--|--|
| Occupant Number | 01 | | | | | |
| Ejection | 2 | | | | | |
| (Note on Vehicle Interior Sketch) Ejection Area | 1 | | | | | |
| Ejection Medium | 3 | | | | | |
| Medium Status | 2 | | | | | |

Ejection

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

Ejection Area

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

(7) Roof

- (8) Other area (e.g., back of pickup, etc.) (specify):

(9) Unknown

Ejection Medium

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

(5) Integral structure

- (8) Other medium (specify):

(9) Unknown

Medium Status (Immediately Prior to Impact)

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

ENTRAPMENT No [☒] Yes []

Describe entrapment mechanism:

Component(s):

(Note on vehicle interior sketch)



OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

2. Case Number - Stratum 96-02

3. Vehicle Number 02

4. Occupant Number 01

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 33

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex 2

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height 999

Code actual height to the nearest centimeter.

(999) Unknown

___ inches X 2.54 = ___ centimeters

8. Occupant's Weight 999

Code actual weight to the nearest kilogram.

(999) Unknown

___ pounds X .4536 = ___ kilograms

9. Occupant's Role 1

(1) Driver

(2) Passenger

(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position 11

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture 9

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front of seat

(8) Other abnormal posture (specify):

(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection 2

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 1

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)
(specify): _____
- (9) Unknown

14. Ejection Medium 3

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): _____
- (5) Integral structure
- (8) Other medium (specify): _____
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 2

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.
(specify): _____
- (9) Unknown

17. Occupant Mobility 3

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or not oriented to time or place
- (2) Removed from vehicle due to perceived serious injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (8) Removed from vehicle for other reasons
(specify): _____
- (9) Unknown

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 02

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 0

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 0

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

22. Manual Shoulder Belt Upper Anchorage Adjustment 1

- (0) No manual shoulder belt
- (1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

Non-functional

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or

automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):
- (9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other automatic belt failure (specify):

(9) Unknown

POLICE REPORTED RESTRAINT USE

AIR BAG SYSTEM FUNCTION

28. Police Reported Belt Use 4

- (0) None used
- (1) Police did not indicate belt use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Automatic belt
- (8) Other type belt, (specify):

(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 0

- (0) No air bag available
- (1) Police did not indicate air bag availability/function
- (2) Deployed
- (3) Not deployed
- (4) Unknown if deployed
- (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☒ Vehicle inspection
- ☐ Official injury data
- ☐ Driver/occupant interview
- ☐ Other (specify):

☐ Unknown if belt used

30. Frontal Air Bag System 0

Availability/Function

(This Occupant Position)

- (0) Not equipped/not available
- (1) Air bag

Non-functional

(2) Air bag disconnected (specify):

(3) Air bag not reinstalled

(9) Unknown

31. Frontal Air Bag System Deployment 0

(This Occupant Position)

- (0) Not equipped/not available
- (1) Deployed during accident (as a result of impact)
- (2) Deployed inadvertently just prior to accident
- (3) Deployed, details unknown
- (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (5) Unknown if deployed
- (7) Nondeployed
- (9) Unknown

32. Other Than First Seat Frontal Air Bag 0

Availability/Function

(This Occupant Position)

- (0) Not equipped/not available
- (1) Air bag

Non-functional

(2) Air bag disconnected (specify):

(3) Air bag not reinstalled

(9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

(0) Not equipped with an "other" air bag

- (1) Deployed during accident (as a result of impact)
- (2) Deployed inadvertently just prior to accident
- (3) Deployed, details unknown
- (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (5) Unknown if deployed
- (7) Nondeployed
- (9) Unknown

34. Are There Indications of Air Bag System Failure? 0

(This Occupant Position)

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):

(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 0

- (0) Not equipped/not available
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 0

- (0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 0

- (0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify):

(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 00

- (00) Not equipped/not available

Code the accident event sequence number that initiated the air bag deployment

- (96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 0

- (0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify):

- (6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact +
- 007

- (_000) Not equipped/not available

Code the value of the delta V for the impact that initiated the air bag deployment

- (_996) Deployment, unknown longitudinal Delta V
(_997) Not deployed
(_998) Unknown if deployed
(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 0

- (0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 0

- (0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 00

- (00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify):

- (95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM
EVALUATION *continued*

HEAD RESTRAINT AND SEAT EVALUATION

44. Source of Air Bag Damage 00
(00) Not equipped/not available
(01) Not damaged
(02) Object worn by occupant, (specify):
(03) Object carried by occupant, (specify):
(04) Adaptive/assistive controls, (specify):
(05) Fire in vehicle
(06) Thermal burns
(07) Rescue or emergency efforts
(88) Other damage source (specify):
(95) Damaged, unknown source
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown
45. Was The Air Bag Tethered? 0
(0) Not equipped/not available
(1) No
(2) Yes (specify number of tether straps):
(3) Deployed, unknown if tethered
(7) Not deployed
(8) Unknown if deployed
(9) Unknown
46. Did The Air Bag Have Vent Ports? 0
(0) Not equipped/not available
(1) No
(2) Yes (specify number of vent ports):
(3) Deployed, unknown if vent ports present
(7) Not deployed
(8) Unknown if deployed
(9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 0
(0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if other occupant contact to air bag
(7) Not deployed
(8) Unknown if deployed
(9) Unknown
48. Was This Occupant Wearing Eye-wear? 0
(0) Not air bag equipped/air bag not available
(1) No
(2) Eyeglasses/sunglasses
(3) Contact lenses
(4) Deployed, unknown if eyewear worn
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

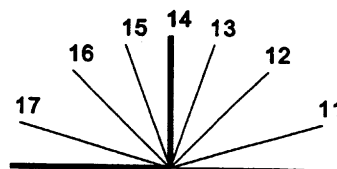
49. Head Restraint Type/Damage by Occupant at This Occupant Position 3
(0) No head restraints
(1) Integral—no damage
(2) Integral—damaged during accident
(3) Adjustable—no damage
(4) Adjustable—damaged during accident
(5) Add-on—no damage
(6) Add-on—damaged during accident
(8) Other (specify):
(9) Unknown
50. Seat Type (this Occupant Position) 02
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Box mounted seat (i.e., van type)
(10) Other seat type (specify):
(99) Unknown
51. Seat Orientation (this Occupant Position) 1
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify):
(9) Unknown
52. Seat Track Adjusted Position Prior To Impact 5
(0) Occupant not seated or no seat
(1) Non-adjustable seat track
Adjustable Seat Track
(2) Seat at forward most track position
(3) Seat between forward most and middle track positions
(4) Seat at middle track position
(5) Seat between middle and rear most track positions
(6) Seat at rear most track position
(9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 23

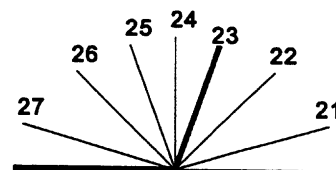
- (00) Occupant not seated or no seat
(01) Not adjustable

Upright prior to impact

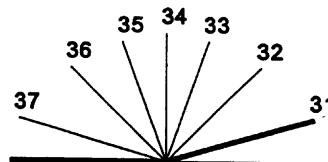
- (11) Moved to completely rearward position
(12) Moved to rearward midrange position
(13) Moved to slightly rearward position
(14) Retained pre-impact position
(15) Moved to slightly forward position
(16) Moved to forward midrange position
(17) Moved to completely forward position

***Slightly reclined prior to impact***

- (21) Moved to completely rearward position
(22) Moved to rearward midrange position
(23) Retained pre-impact position
(24) Moved to upright position
(25) Moved to slightly forward position
(26) Moved to forward midrange position
(27) Moved to completely forward position

***Completely reclined prior to impact***

- (31) Retained pre-impact position
(32) Moved to rearward midrange position
(33) Moved to slightly rearward position
(34) Moved to upright position
(35) Moved to slightly forward position
(36) Moved to forward midrange position
(37) Moved to completely forward position



(99) Unknown

54. Seat Performance (this Occupant Position) 1

- (0) Occupant not seated or no seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks or "seat back" failed
(specify): _____
(4) Seat track/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion, (specify): _____
(7) Combination of above (specify): _____
(8) Other (specify): _____
(9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model

(000) No child safety seat

Applicable codes are found in your NASS CDS
Data Collection, Coding and Editing

(950) Built-in child safety seat

(997) Other make/model (specify):

(998) Unknown make/model

(999) Unknown if child safety seat used

56. Type of Child Safety Seat

(0) No child safety seat

(1) Infant seat

(2) Toddler seat

(3) Convertible seat

(4) Booster seat - with shield

(5) Booster seat - without shield

(7) Other type child safety seat (specify):

(8) Unknown child safety seat type

(9) Unknown if child safety seat used

57. Child Safety Seat Orientation

(00) No child safety seat

Designed for Rear Facing for This Age/Weight

(01) Rear facing

(02) Forward facing

(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight

(11) Rear facing

(12) Forward facing

(18) Other orientation (specify):

(19) Unknown orientation

*Unknown Design or Orientation For This
Age/Weight, or Unknown Age/Weight*

(21) Rear facing

(22) Forward facing

(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage

59. Child Safety Seat Shield Usage

60. Child Safety Seat Tether Usage

Note: Options below applicable to
Variables OA58-OA60.

(00) No child safety seat

Not Designed With Harness/Shield/Tether(01) After market harness/shield/tether
added, not used

(02) After market harness/shield/tether used

(03) Child safety seat used, but no after market
harness/shield/tether added(09) Unknown if harness/shield/tether
added or used*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used

(12) Harness/shield/tether used

(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

(21) Harness/shield/tether not used

(22) Harness/shield/tether used

(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

61. Injury Severity (Police Rating) 2

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality 4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

Nonfatal

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):

- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

- (9) Unknown

64. Hospital Stay 00

- (00) Not Hospitalized
- _____ Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

65. Working Days Lost 99

- _____ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

STOP WORK HERE

VARIABLES 66-74

TO BE CODED BY THE ZONE CENTER

TO BE CODED BY THE ZONE CENTER**INJURY CONSEQUENCES****66. Time to Death**

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Death**68. 2nd Medically Reported Cause of Death****69. 3rd Medically Reported Cause of Death**

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

70. Number of Recorded Injuries for This Occupant

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

TRAUMA DATA**71. Glasgow Coma Scale (GCS) Score (at Medical Facility)**

- (00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood?

- (1) No - blood not given
(2) Yes - blood given
(specify units):
(9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO₃

- (00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO₃
(96) ABGs reported, HCO₃ unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION**74. Primary Source of Belt Use Determination**

- (0) Not equipped/not available/destroyed or rendered inoperative
(1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):
(9) Unknown if belt used



U.S. Department of Transportation
National Highway Traffic Safety
Administration

BEST AVAILABLE

Form Approved
O.M.B. No. 2127-0021

OCCUPANT INJURY FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

3. Vehicle Number

2. Case Number - Stratum

4. Occupant Number

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

| Source of Injury Data | Body Region | Type of Anatomic Structure | A.I.S. - 90 | | | Injury Source | Injury Confidence Level | Direct/ Indirect Injury | Occupant Area Intrusion Number | | |
|-----------------------|-------------|----------------------------|-----------------------------|-----------------|-----------------|---------------|-------------------------|-------------------------|--------------------------------|-----------|-----------|
| | | | Specific Anatomic Structure | Level of Injury | A.I.S. Severity | | | | | | |
| 1st | 5. 6 | 6. 2 | 7. 9 | 8. 06 | 9. 00 | 10. 1 | 11. 7 | 12. 001 | 13. 1 | 14. 1 | 15. 01 |
| 2nd | 16. ____ | 17. ____ | 18. ____ | 19. ____ | 20. ____ | 21. ____ | 22. ____ | 23. ____ | 24. ____ | 25. ____ | 26. ____ |
| 3rd | 27. ____ | 28. ____ | 29. ____ | 30. ____ | 31. ____ | 32. ____ | 33. ____ | 34. ____ | 35. ____ | 36. ____ | 37. ____ |
| 4th | 38. ____ | 39. ____ | 40. ____ | 41. ____ | 42. ____ | 43. ____ | 44. ____ | 45. ____ | 46. ____ | 47. ____ | 48. ____ |
| 5th | 49. ____ | 50. ____ | 51. ____ | 52. ____ | 53. ____ | 54. ____ | 55. ____ | 56. ____ | 57. ____ | 58. ____ | 59. ____ |
| 6th | 60. ____ | 61. ____ | 62. ____ | 63. ____ | 64. ____ | 65. ____ | 66. ____ | 67. ____ | 68. ____ | 69. ____ | 70. ____ |
| 7th | 71. ____ | 72. ____ | 73. ____ | 74. ____ | 75. ____ | 76. ____ | 77. ____ | 78. ____ | 79. ____ | 80. ____ | 81. ____ |
| 8th | 82. ____ | 83. ____ | 84. ____ | 85. ____ | 86. ____ | 87. ____ | 88. ____ | 89. ____ | 90. ____ | 91. ____ | 92. ____ |
| 9th | 93. ____ | 94. ____ | 95. ____ | 96. ____ | 97. ____ | 98. ____ | 99. ____ | 100. ____ | 101. ____ | 102. ____ | 103. ____ |
| 10th | 104. ____ | 105. ____ | 106. ____ | 107. ____ | 108. ____ | 109. ____ | 110. ____ | 111. ____ | 112. ____ | 113. ____ | 114. ____ |

OCCUPANT INJURY CLASSIFICATION

| Body Region | Specific Anatomic Structure | Level of Injury | Aspect |
|---|--|--|------------------|
| (1) Head | | Specific injuries are assigned consecutive two-digit numbers beginning with 02. | (1) Right |
| (2) Face | | | (2) Left |
| (3) Neck | <u>Vessels, Nerves, Organs.</u> | To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity. | (3) Bilateral |
| (4) Thorax | <u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02. | | (4) Central |
| (5) Abdomen | | The exceptions to this rule apply to: | (5) Anterior |
| (6) Spine | | | (6) Posterior |
| (7) Upper Extremity | | | (7) Superior |
| (8) Lower Extremity | | | (8) Inferior |
| (9) Unspecified | | | (9) Unknown |
| | | | (0) Whole region |
| Type of Anatomic Structure | Whole Area | Abbreviated Injury Scale | |
| (1) Whole Area | (02) Skin - Abrasion | (1) Minor Injury | |
| (2) Vessels | (04) Skin - Contusion | (2) Moderate Injury | |
| (3) Nerves | (06) Skin - Laceration | (3) Serious Injury | |
| (4) Organs (includes Muscles/ligaments) | (08) Skin - Avulsion | (4) Severe Injury | |
| (5) Skeletal (includes joints) | (10) Amputation | (5) Critical Injury | |
| (6) Head - LOC | (20) Burn | (6) Maximum (untreatable) | |
| (9) Skin | (30) Crush | (7) Injured, unknown severity | |
| | (40) Degloving | | |
| | (50) Injury - NFS | | |
| | (90) Trauma, other than mechanical | | |
| | <u>Head - LOC</u> | | |
| | (02) Length of LOC | | |
| | (04) Level | | |
| | (06) of | | |
| | (08) Consciousness | | |
| | (10) Concussion | | |
| | <u>Spine</u> | | |
| | (02) Cervical | | |
| | (04) Thoracic | | |
| | (06) Lumbar | | |

SOURCE OF INJURY DATA

INJURY SOURCE

DIRECT/INDIRECT INJURY

CONFIDENCE LEVEL

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): _____
- (9) Police _____

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

INJURY SOURCES

FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify): _____
- (019) Other front object (specify): _____

LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify): _____
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify): _____

RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify): _____
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify): _____

INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify): _____
- (155) Head restraint system
- (160) Other occupants (specify): _____
- (161) Interior loose objects
- (162) Child safety seat (specify): _____
- (163) Other interior object (specify): _____

AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify) _____
- (195) Other air bag compartment cover (specify) _____

ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top

FLOOR

- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify): _____

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify): _____
- (409) Additional or relocated switches, (specify): _____

- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify): _____

EXTERIOR OF OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tires (specify): _____

- (454) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify): _____

- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surface
- (508) Side mirrors
- (509) Other side protrusions (specify): _____

- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify): _____

- (514) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify): _____

- (599) Unknown vehicle or object

NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify): _____
- (604) Air bag exhaust gases
- (697) Injured, unknown source

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Restrained?

☒ No

☐ Yes

Blood Alcohol Level
(mg/dl)

BAL = 0

Glasgow Coma
Scale Score

GCSS =

Units of Blood
Given

Units =

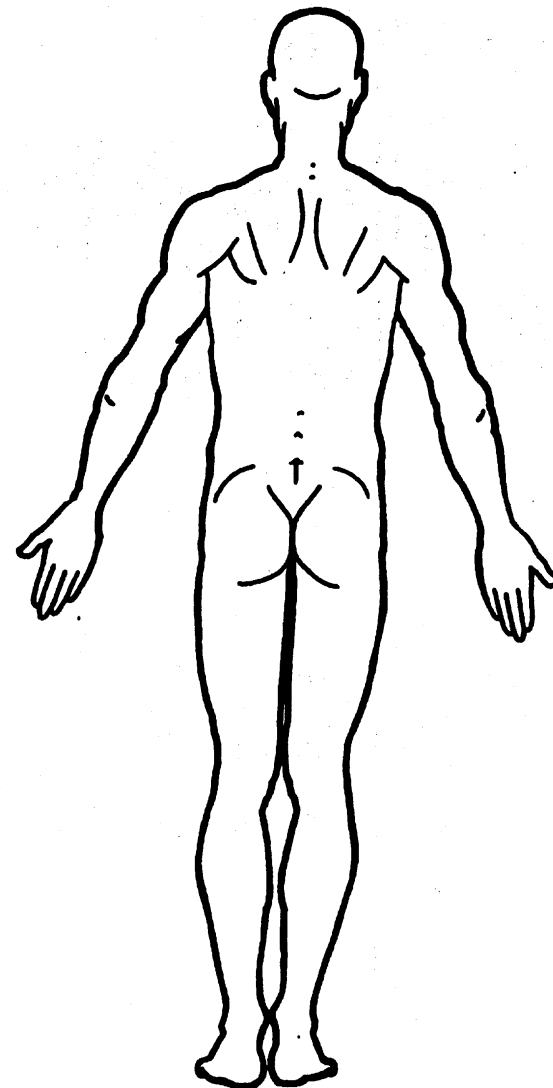
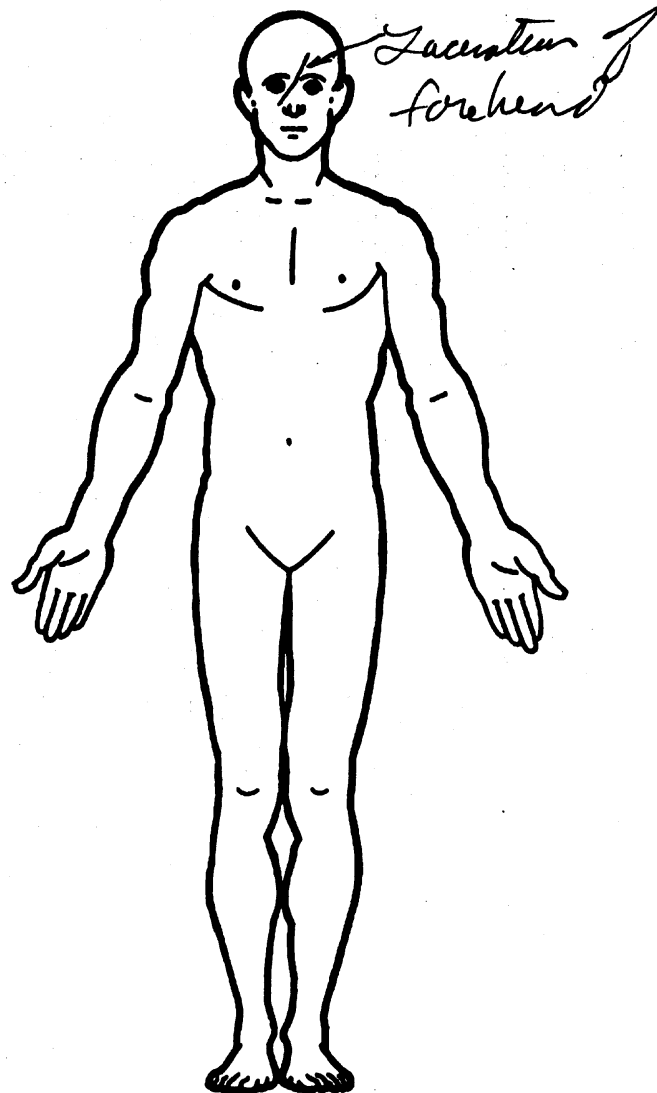
Arterial Blood Gases

pH =

PO₂ =

PCO₂

HCO₃



ACCIDENT SUMMARY

ACCIDENT DATE — 196

POLICE INVESTIGATED (1,2,9)*

Local Police

City — — — County — — —

GENERAL LOCALITY

- (1) Freeway, Limited Access
- (2) Urban (City)
- (3) Urban-Rural (mixed)
- (4) Rural, Fields

CONFIGURATION (First Harm)

- (0) Struck Object or Pedestrian
- (1) Rear-End
- (2) Head-On
- (3) Rear-to-Rear
- (4) Angle
- (5) Sideswipe-Same Direction
- (6) Sideswipe-Opposite Direct.
- (7) NonColl:eg Fell from Veh
- (8) NonImpact Deployment
- (9) Unknown

FIRE INVOLVED (0) None

- (1) AirBag Vehicle
- (2) Other Vehicle
- (3) Both Vehicles
- (9) Unknown

NUMBER: VEHICLES INVOLVED

(8)=8 or more
PERSONS INVOLVED

INJURED PERSONS

MAXIMUM AIS IN ACCIDENT

OTHER VEHICLE: MAXIMUM AIS

PRIME/DEPLOY IMPACT w AB VEH:
EVENT NUMBERCDC 11-FDEW-2

TOTAL DELTA-V

Model Year, Make, Model, Body Type:

1996-BMW-325ES-2dr.

AIRBAG VEHICLE INSPECTION

DATE VEH. INSPECTED — 196

REASON VEHICLE NOT INSPECTED

- (0) Not Required
 - (1) Inspection Completed
 - (2) Cannot be Located**
 - (3) Repaired or Destroyed**
 - (5) Refual or Impounded**
 - (7) Other*
- **Specify: _____

IMPACT DATA OBTAINED

- (0) No Data Obtained
- (1) CDC Only
- (2) Crush Profile Only
- (3) Trajectory Data Only
- (4) CDC and Crush Profile
- (5) CDC and Trajectory
- (6) Crush and Trajectory
- (7) CDC, Crush & Trajectory

BASIS OF DELTA-V

- (0) Not Computed (Unknown Why)
- (1) CRASH - Damage Only
- (2) CRASH - Damage+Trajectory
- (3) Missing Vehicle Algorithm
- (4) Yielding Object Algorithm
- (5) Unknown Basis
- (6) One Vehicle Beyond Scope
- (7) Collision Beyond Scope
- (8) Insufficient Data

VEHICLE HISTORY

HAS AIRBAG VEHICLE BEEN IN
ANY PRIOR IMPACTS (1,2,9)*HAS ANY PRIOR MAINTENANCE/SERVICE
BEEN PERFORMED ON SYSTEM(1,2,9)*

*Describe: _____

AIRBAG VEHICLE: FLEET _____

VIN _____

MILEAGE _____

* (1)=Yes, (2)=No, (9)=Unknown

DRAFT -

85

BEST AVAILABLE

SYSTEM READINESS LAMP
(In Instrument Cluster)

PRE-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

9

DRIVER'S REPORT OF
PRE-IMPACT FLASHING

- (00) No Flashing Reported
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not App (system removed)
- (99) Unknown

9 9

PERIOD OF PRE-IMPACT FLASHING

- (0) No Flashing
- (1) Same Day as Impact
- (2) Prior Day
- (3) Prior Two Days
- (4) Prior Week
- (5) Prior Month
- (6) Over One Month
- (9) Unknown

9

POST-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

2

POST-IMPACT FLASHING

- (00) No Flashing
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not Appl (removed)
- (99) Unknown

9 9

AIRBAG VEHICLE
FIRST HARMFUL EVENT

1 2

- (01) Fire or explosion
- (02) Immersion
- (03) Gas Inhalation
- (04) Fell from vehicle
- (05) Injured in vehicle
- (06) Other noncollision (specify):
- (07) Overturn
- (08) Jackknife with intraunit damage
Collision With:
- (09) Pedestrian
- (10) Pedalcyclist
- (11) Railway train
- (12) Animal
- (13) Motor vehicle in transport (same roadway)
- (14) Motor vehicle in transport (other roadway)
- (15) Parked motor vehicle
- (16) Other type nonmotorist (specify):
- (17) Thrown or falling object
- (18) Boulder
Collision with Fixed Object:
- (20) Building
- (21) Impact attenuator/Crash Cushion
- (22) Bridge pier or abutment
- (23) Bridge parapet end
- (24) Bridge rail
- (25) Guardrail
- (26) Concrete traffic barrier
- (27) Median barrier
- (28) Other longitudinal barrier (specify):
- (29) Highway/Traffic sign post
- (30) Overhead sign support
- (31) Luminaire/Light support
- (32) Utility pole
- (33) Other post, pole, or support (specify):
- (34) Culvert
- (35) Curb
- (36) Ditch
- (37) Embankment-earth
- (38) Embankment-rock, stone or concrete
- (39) Fence (wooden, wire, chain link, etc.)
- (40) Wall (stone, rock, metal, etc.)
- (41) Fire hydrant
- (42) Shrubbery
- (43) Tree
- (44) Other fixed object (specify):
- (45) Pavement surface irregularity (pothole, grooved, grates)
- (99) Unknown

AIRBAG VEHICLE IMPACT SUMMARY

VEHICLE ROLE

- (0) Non-collision
 (1) Striking Unit
 (2) Struck Unit
 (3) Both Striking and Struck
 (9) Unknown

MANNER OF LEAVING SCENE

- (1) Driven
 (2) Towed-due to damage
 (3) Towed - not for damage
 (4) Towed - details unknown
 (5) Abandoned
 (9) Unknown

NUMBER OF IMPACT EVENTS

- (8) 8 or more, (9) Unknown

ROLLOVER (0) No Rollover

- (1) First Event
 (2) Subsequent Event
 (3) Yes, Unknown Event
 (9) Unknown

OVERRIDE/UNDERRIDE

- (1) No over/underride
 (1) Override - 1st CDC
 (3) - Other CDC
 (4) Underride - 1st CDC
 (6) - Other CDC
 (9) Unknown

AIRBAG VEHICLE DAMAGE

- CODES: (1) Yes, DAMAGED
 (2) No Damage
 (9) Unknown

LEFT FRONT FENDER DAMAGE

RIGHT FRONT FENDER DAMAGE

CENTER TOP OF GRILLE DAMAGE

FRONT BUMPER E.A. STATUS: Left

- (1) Normal
 (2) Extended
 (3) Partial Compression
 (4) Complete Compression
 (5) Not Applicable
 (9) Unknown

FIRST AIRBAG VEHICLE IMPACT:

CONFIGURATION

- (0) Struck Object or Pedestrian
 (1) Rear-End
 (2) Head-On
 (3) Rear-to-Rear
 (4) Angle
 (5) Sideswipe - Same Direction
 (6) Sideswipe-Opposite Direct.
 (7) NonColl:eg Fell from Veh
 (8) NonImpact Deployment
 (9) Unknown

CDC DL - FDEW - 1

OBJECT CONTACTED:

PRIMARY/DEPLOYMENT IMPACT:

EVENT NUMBER

TOTAL DELTA-V

LONGITUDINAL DELTA-V

CONFIGURATION

- (0) Struck Object or Pedestrian
 (1) Rear-End
 (2) Head-On
 (3) Rear-to-Rear
 (4) Angle
 (5) Sideswipe - Same Direction
 (6) Sideswipe-Opposite Direct.
 (7) NonColl:eg Fell from Veh
 (8) NonImpact Deployment
 (9) Unknown

CDC DL - FDEW - 2OBJECT CONTACTED: VEH 2

NOTES:

AIRBAG SYSTEM DAMAGE

CODES: (1) Yes, Damaged*
 (2) No, Intact
 (8) Not App. (Removed)
 (9) Unknown

AIRBAG MODULE

SENSORS: Left Front

Center Front

Right Front

Rear, Cowl

DIAGNOSTIC MODULE

WIRING

KNEE DIVERter

INDICATION OF DISCONNECTED
 OR LOOSE ELECTRICAL
 CONNECTORS

CONDITION OF DEPLOYED BAG

(1) Bag Intact
 (2) Split or Torn*
 (3) Cut by Object In Impact*
 (4) Cut after Accident*
 (5) Other (e.g., burned)*
 (8) N/A (not deployed)
 (9) Unknown

*DESCRIBE System and Bag Damage:

See Attached diagram

NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:

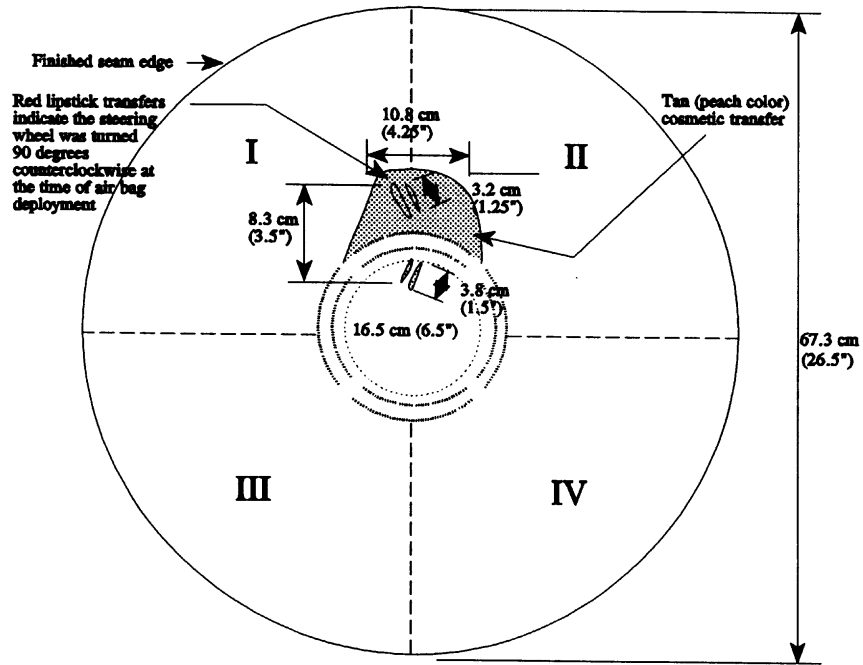
See Attached diagram

TOP

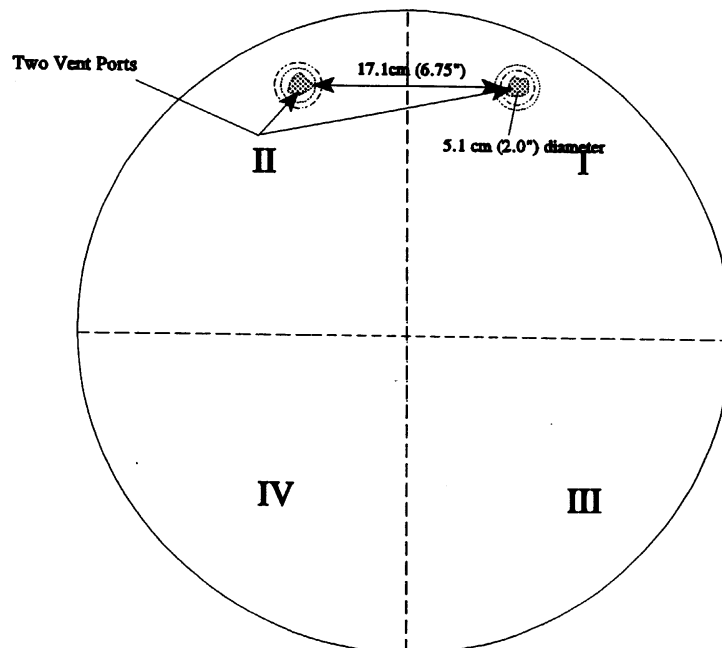
BOTTOM

FRONT

BACK BEST AVAILABLE



Tethered Driver Side Air Bag of Vehicle #1 (Front Side)



Tethered Driver Side Air Bag of Vehicle #1 (Reverse Side)

OCCUPANTS/DRIVER

AIRBAG SUPPLEMENT AB-

OCCUPANTS of AIRBAG CAR

NUMBER OF OCCUPANTS IN VEHICLE
(8) 8 or more

NUMBER OF INJURED PERSONS

MAXIMUM AIS IN AIRBAG VEHICLE

- (0) No Injury
(1-6) AIS Severity
(7) Injured, Unknown Severity
(9) Unknown

DRIVER AGE 52 SEX F

NUMBER OF DRIVER INJURIES

SOURCE OF BEST INJURY DATA

- (0) Not Injured
(1) Autopsy w/wo med. records
(2) Hospital Medical Records
(3) Emergency Room only
(4) Private physician, Clinic
(5) Lay Coroner Report
(6) EMS Personnel
(7) Interviewee
(8) Police
(9) Unknown

MAXIMUM AIS BY BODY REGION

| REGION | MAX AIS | CONTACT |
|----------------|----------|---------------------|
| Head/Neck/Face | _____ | _____ |
| Chest | _____ | _____ |
| Abdomen | _____ | _____ |
| Leg/Hips | <u>9</u> | <u>Knee Bolster</u> |
| Other (Arms) | _____ | _____ |
| DRIVER MAXIMUM | _____ | _____ |

EJECTION: Extent _____

Portal _____

NOTES:

BEST AVAILABLE

DRIVER BELT USAGE: (1) Used (2) Not Used (9) Unknown 2

Evidence: _____

DRIVER POSTURE: Any Comments Recorded (1) Yes, (2) No 9

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs and feet. Also note hand and arm position. Did driver brace before crash? Describe:

Driver attempting to make a left turn. Unknown seat posture

DRIVER FOREIGN OBJECTS: Comments Recorded (1) Yes, (2) No 9

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelry play any role?:

DRIVER COMMENTS: Comments Recorded (1) Yes, (2) No 9

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:

PASSENGER-AIRBAG CONTACT (1) Yes, (2) No, (9) Unknown 1

Describe: Facial contact on bag as evidenced by mascara & lip stick transfer

| | | | | | |
|--------------------|----------------|---------------|-------------|--------------------|-----------------|
| DECEDENT'S NAME | AGE 4Months | RACE White | SEX Male | HEIGHT 2' | WEIGHT 20 lb |
| PRONOUNCED DEAD BY | AT | | | DATE | TIME 12:30am |
| ID WITNESS NAME | ADDRESS | | | RELATION Mother | |

PATHOLOGIC FINDINGS:

CLOSED HEAD INJURY
STATUS POST EVACUATION OF SUBDURAL HEMATOMA
STATUS POST ORGAN DONATION

CAUSE OF DEATH:

HEAD INJURY

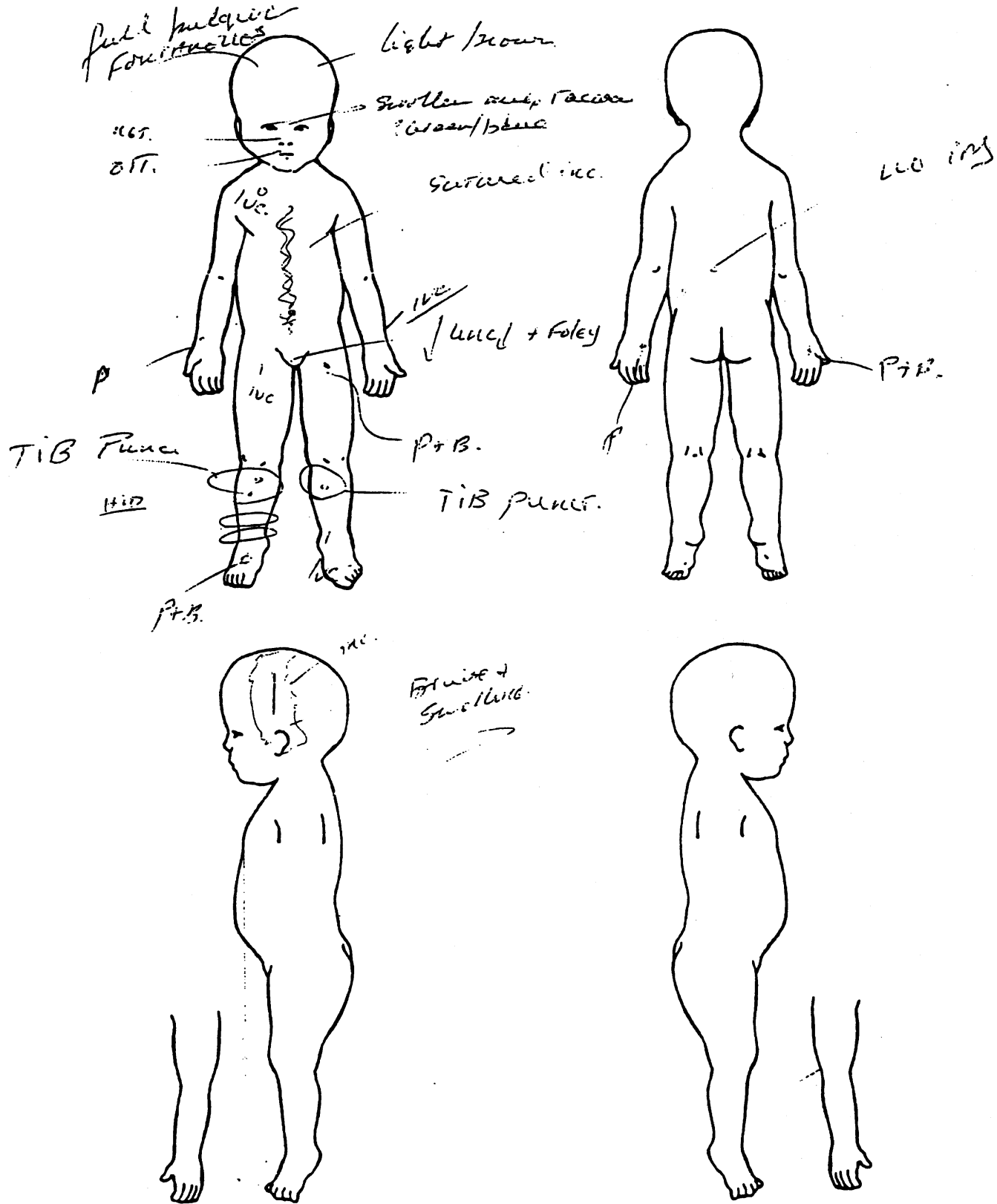
MANNER OF DEATH: ACCIDENT

Infant, ventral, dorsal, and left and right lateral views

BEST AVAILABLE

Name _____ Autopsy No. _____

Age _____ Race _____ Sex _____ Date 1 / 1



SEE BODY DIAGRAM

Autopsy Started:

Discharge Record

Date : Med Rec # :
Time : Account # :
Unit : Pat Type :
Rm/Bed : Type :
Source : Clerk :

PATIENT INFORMATION

Name : DOB :
AKA : Sex :
Address : Race :
Bldg/Com : SS# :
City, ST : Religion :
ZIP : Plan :
County : ID # :
Home # : Group # :

PARENT INFORMATION

Name :
Relat :
Home # :
Work # :
Name :
Relat :
DOB :
Work # :
Name :
Relat :
Home # :

GUARANTOR INFORMATION

Name :
DOB :
Address :
SS# :
City, ST :
Zip :
Occupatn :
Home # :
Work # :
Employer :
Comments :

FAMILY PHYSICIAN

Name :
MD Group :
Address :
City, ST :
Zip :
Phone # :
Send Rep :

REFERRING PHYSICIAN

Name :
MD Group :
Address :
City, ST :
Zip :
Phone # :
Send Rep :

OTHER INVOLVED PHYSICIAN

Name :
MD Group :
Address :
City, ST :
Zip :
Phone # :
Send Rep :

OTHER INVOLVED PHYSICIAN

Name :
MD Group :
Address :
City, ST :
ZIP :
Phone # :
Send Rep :

Admit Phy:
Atten Phy:
ICD9 Code:
Adm Dx :

Service : TRAUMA
Service : TRAUMA
Disch Dt :

PRINCIPAL DIAGNOSIS:

Motor vehicle accident with diffuse external injuries and brain death.

SECONDARY DIAGNOSES:

Status post emergent bur hole and craniotomy for evacuation of hematoma.

COMPLICATIONS AFTER ADMISSION: Brain death.

SUMMARY OF CLINICAL COURSE: This unfortunate 6-month-old white male was admitted initially to

on following a motor vehicle accident. He was in the front seat riding in a car seat which underwent a minor accident with deployment of a front seat air bag. The patient himself was found to have been apneic and arrested at the scene. He was taken to

where he arrived without a blood pressure or a cardiac rhythm. He was resuscitated in the and taken emergently to CAT scan where a large subdural and epidural hematoma was found. He had an emergent bur hole craniotomy done with evacuation of a large hematoma and subsequently was taken to the at for completion craniotomy and subdural evacuation. The patient had a very unstable course at , including initial arrival in state of arrest and two subsequent arrests that were reported. He was then transferred emergently via to

On arrival to the at , the patient was intubated and being bagged. He had good breath sounds bilaterally. He was easy to ventilate. There was no blood pressure by monitor, however he did have palpable pulses and a good capillary refill. The patient, in addition, had left saphenous cut-down site, left hand venous line, Foley catheter, and endotracheal tube. He was transferred, in addition, with films but without paper work. He was on a spine board and his head was notable for being in a wrapped bandage.

On arrival, temperature was 33 degrees C., heart rate 120/minute, he was being bagged at 20/minute. Blood pressure was 50/26 on initial reading in the Pulse oximeter read 100% and end tidal CO2 monitor read 13. He had a Glasgow coma score of 3. Head was wrapped in bandage. Pupils

were 5 mm, fixed and dilated. Neck had no evidence of injury and was on spine board. Chest had good breath sounds bilaterally without chest wall deformity. Abdomen was soft and non-distended. Extremities showed no fracture. They were pink, they were cool and they were perfused.

Initial lab values were significant for a hemoglobin of 13.3, white blood cell count of 11.6, platelet count of 50 and lactate of 3.5. He had sodium of 145 and potassium of 1.36. Initial blood gas was 7.14, 23, 102, -20 and 8.6.

The patient, while in the , had a right femoral cut-down and orogastric tube placed. He was given bicarbonate and packed red blood cells. Chest x-ray was also taken, which showed no significant pulmonary pathology. From the he was taken to the where he was stabilized. In the he underwent left radial arterial cutdown for obtaining arterial access for blood pressure monitoring. He was evaluated by in the and in the . His examination on arrival was essentially consistent with brain death and this was relayed to the family members, along with the extremely grim prognosis of the child.

At approximately a.m. that night, the patient underwent a cerebral blood flow scan. The scan itself showed that the patient had no blood flow to his brain and was, therefore, clinically brain dead. The patient was declared deceased at a.m. on . Discussion was undertaken with family regarding organ donation. They were willing to have the child donate his organs and Kidney I, the , was contacted.

| | | | | |
|--------------------------|--------------------------------------|--------------------------------------|------|----------|
| PARENT LEGAL GUARDIAN | NAME-ADDRESS | DATE | TIME | LOCATION |
| | NAME-ADDRESS | | | |
| RELATIVE | NAME-ADDRESS | | | |
| | NAME-ADDRESS | | | |
| INJURY | INJURY AND TIME | INJURY LOCATION | | |
| | INFORMANT | INJURY DESCRIPTION | | |
| PHYSICIAN | REFERRING M.D. NAME AND PHONE | FAMILY M.D. NAME AND PHONE | | |
| | PARENTS NOT AVAILABLE. | PARENTS NOT AVAILABLE | | |
| INSURANCE | INSURANCE NAME / ID # / GROUP / PLAN | INSURANCE NAME / ID # / GROUP / PLAN | | |
| | AUTO ASSIGNED SELF PAY Plan: | Plan: | | |
| | ALLERGIES (LIST) | TRANSPORTATION | | |

| | | | | |
|----------------------------------|-----------|-----------|-------------|--------------------------------|
| CONDITION ON ARRIVAL | TIME SEEN | PRECEPTOR | PHYSICIAN | DESCRIPTION |
| GOOD FAIR CRITICAL | AM PM | | | |
| Critically ill infant S/P | | | General | Flaccid; Critically |
| MVA E subdural/subarach | | | Head | Swollen |
| bld. stabilized @ Shore | | | Ears | |
| Ment. not med. for incl. cranial | | | Eyes | → pupils fixed dilated / fixed |
| in ED + OK. Pupils @ | | | Nose | ✓ no chr. fr. (B) |
| arrival + 20K in time | | | Mouth | ✓ |
| resusc E Epi x 3. ? cont | | | Throat | ✓ |
| (B) lung. ↓ bbl on trachea | | | Neck | ✓ |
| | | | Torso | → φ obs. from |
| | | | Lungs | → sl. ↓ BS on (B) vs (C) |
| | | | Heart | ✓ |
| | | | Abd. | ✓ |
| | | | Rectum | ✓ |
| | | | Genitalia | ✓ |
| | | | Extremities | ✓ |
| | | | Skin | ✓ |
| | | | Neuro. | → flaccid |
| | | | Psych. | |

| | | | | | | |
|------------------------|----------|-------------|--------------|------------------------|-------------------|-------------------|
| CONSULTANT: | SERVICE: | TIME CALLED | TIME ARRIVED | CONDITION ON DISCHARGE | DISPOSITION | TIME OUT |
| | | AM/PM | AM/PM | GOOD | HOME | AM |
| | | AM/PM | AM/PM | FAIR | ADMIT | PM |
| DISCHARGE IMPRESSION: | | | | CRITICAL | TRANSFER | |
| | | | | Return To | PCP / CLINIC / ED | |
| | | | | (CIRCLE ONE) | | |
| INSTRUCTIONS: (circle) | ASTHMA | FEVER | WOUND CARE | CLEAR LIQUID DIET | COLD | SORE THROAT |
| | | | | | | EAR INF. |
| | | | | | | SPRAINS/CAST CARE |
| | | | | | | BURNS |
| | | | | | | HEAD TRAUM |

CERTIFY THAT I UNDERSTAND THE INSTRUCTIONS GIVEN TO ME

PARENT LEGAL GUARDIAN

BEST AVAILABLE

TRIAGE TIME _____

| | | | |
|--|--------------------------------|---------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> CRITICAL | <input type="checkbox"/> ACUTE | <input type="checkbox"/> URGENT | <input type="checkbox"/> NON URGENT |
|--|--------------------------------|---------------------------------|-------------------------------------|

| | | | |
|----------------------|---------------|-----------------------------------|-------|
| ROOM # <u>TRAUMA</u> | TIME IN ROOM: | ID BAND: <input type="checkbox"/> | DATE: |
|----------------------|---------------|-----------------------------------|-------|

| | |
|---------------|------------------|
| PATIENT NAME: | AGE <u>5 msk</u> |
|---------------|------------------|

STATED _____
 CHIEF _____
 COMPLAINT: _____

PREVIOUS MEDICAL PROBLEMS: _____

ALLERGIES: _____

| | |
|----------------------|--|
| CURRENT MEDICATIONS: | EXPOSURE TO INFECTIOUS DISEASE <input type="checkbox"/> YES <input type="checkbox"/> NO IMMUNIZATIONS UP TO DATE <input type="checkbox"/> YES <input type="checkbox"/> NO DATE OF LAST TETANUS _____ |
|----------------------|--|

NURSING ASSESSMENT

| WEIGHT | KG | TEMPERATURE | Heart Rate | Resp. Rate | BP | TRAUMA SCORE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------------------------|-------------|------------|------------|----|--|--|--|--------------------|--|--|--------|------------|-------------|-------------|---|---|---|----------|---|---|---|---------|---|---|---|-----------------|----------|---|---|---|----------|---|---|---|---------------------|---|---|---|-------------------------|---|---|---|----------------|----------------|---|---|---|------------------|---|---|---|------------------|---|---|---|----------------|---|---|---|-------|--|--|--|--|--|--|--|--|-----|-------|---|---|---|------------|-------|---|---|---|------------------|------|---|---|---|-----|---|---|---|------|---|---|---|-----|---|---|---|--------------------|-------|---|---|---|-------|---|---|---|------|---|---|---|------|---|---|---|-------------------------|--------|---|---|---|---------|---|---|---|-------------|---|---|---|------------------|------|---|---|---|-------|---|---|---|-------|---|---|---|------|---|---|---|-------|---|---|---|---|--------|---|---|---|---------|---|---|---|-------|------|---|---|---|--|--|--|--|
| | | | | | | <table border="1" style="width:100%"> <tr> <th colspan="3">GLASGOW COMA SCALE</th> <th>On Adm</th> <th>1 Hr p Adm</th> </tr> <tr> <td rowspan="3">Eye Opening</td> <td>Spontaneous</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>To Voice</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>To Pain</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td rowspan="4">Verbal Response</td> <td>Oriented</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Confused</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>Inappropriate Words</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Incomprehensible Sounds</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td rowspan="4">Motor Response</td> <td>Obeys Commands</td> <td>6</td> <td>6</td> <td>6</td> </tr> <tr> <td>Localizes (Pain)</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Withdraws (Pain)</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>Flexion (Pain)</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td rowspan="3">TOTAL</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GCS</td> <td>14-15</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Convert to</td> <td>11-13</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td rowspan="4">Respiratory Rate</td> <td>8-10</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>5-7</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>≤ 10</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>3-4</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td rowspan="4">Respiratory Effort</td> <td>10-24</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>25-35</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>≥ 35</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>≤ 10</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td rowspan="3">Systemic Blood Pressure</td> <td>Normal</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Shallow</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Restrictive</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td rowspan="4">Capillary Refill</td> <td>≥ 90</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>70-90</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>50-70</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>≤ 50</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td rowspan="3">TOTAL</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Normal</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Delayed</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td rowspan="2">TOTAL</td> <td>None</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table> | | | GLASGOW COMA SCALE | | | On Adm | 1 Hr p Adm | Eye Opening | Spontaneous | 4 | 4 | 4 | To Voice | 3 | 3 | 3 | To Pain | 2 | 2 | 2 | Verbal Response | Oriented | 5 | 5 | 5 | Confused | 4 | 4 | 4 | Inappropriate Words | 3 | 3 | 3 | Incomprehensible Sounds | 2 | 2 | 2 | Motor Response | Obeys Commands | 6 | 6 | 6 | Localizes (Pain) | 5 | 5 | 5 | Withdraws (Pain) | 4 | 4 | 4 | Flexion (Pain) | 3 | 3 | 3 | TOTAL | | | | | | | | | GCS | 14-15 | 5 | 5 | 5 | Convert to | 11-13 | 4 | 4 | 4 | Respiratory Rate | 8-10 | 3 | 3 | 3 | 5-7 | 2 | 2 | 2 | ≤ 10 | 1 | 1 | 1 | 3-4 | 1 | 1 | 1 | Respiratory Effort | 10-24 | 4 | 4 | 4 | 25-35 | 3 | 3 | 3 | ≥ 35 | 2 | 2 | 2 | ≤ 10 | 0 | 0 | 0 | Systemic Blood Pressure | Normal | 1 | 1 | 1 | Shallow | 0 | 0 | 0 | Restrictive | 0 | 0 | 0 | Capillary Refill | ≥ 90 | 4 | 4 | 4 | 70-90 | 3 | 3 | 3 | 50-70 | 2 | 2 | 2 | ≤ 50 | 1 | 1 | 1 | TOTAL | 0 | 0 | 0 | 0 | Normal | 2 | 2 | 2 | Delayed | 1 | 1 | 1 | TOTAL | None | 0 | 0 | 0 | | | | |
| GLASGOW COMA SCALE | | | On Adm | 1 Hr p Adm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye Opening | Spontaneous | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | To Voice | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | To Pain | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Verbal Response | Oriented | 5 | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Confused | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Inappropriate Words | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Incomprehensible Sounds | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor Response | Obeys Commands | 6 | 6 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Localizes (Pain) | 5 | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Withdraws (Pain) | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Flexion (Pain) | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GCS | 14-15 | 5 | 5 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Convert to | 11-13 | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Rate | 8-10 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 5-7 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ≤ 10 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3-4 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Respiratory Effort | 10-24 | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 25-35 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ≥ 35 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ≤ 10 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systemic Blood Pressure | Normal | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Shallow | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Restrictive | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capillary Refill | ≥ 90 | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 70-90 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50-70 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ≤ 50 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Normal | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Delayed | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | None | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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OBJECTIVE ASSESSMENT/DESCRIPTION OF INJURY

*to trauma room
see flow sheet*

| INITIAL TREATMENT | SIGNATURES | TRAUMA SURGEON |
|---|------------|--------------------------|
| MEDICATIONS GIVEN: ACETAMINOPHEN | | NAME: _____ |
| IBUPROFEN | | NOTIFICATION TIME: _____ |
| NSS DRESSING <input type="checkbox"/> SLING <input type="checkbox"/> ICE <input type="checkbox"/> SPLINT <input type="checkbox"/> | SORTER RN | ARRIVAL TIME: _____ |
| X-RAY _____ TIME SENT _____ ANATOMY X-RAYED _____ | | NEUROSURGERY |
| OTHER: | MD | NAME: _____ |
| | | NOTIFICATION TIME: _____ |
| | | ARRIVAL TIME: _____ |

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O O O O O BEST AVAILABLE
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DX: BLUNT TRAUMA--CHI

STAT LAB RESULTS

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**** S T A T **** S T A T ****

**** S T A T **** S T A T ****

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NORMAL RANGE

CALCIUM

CALCIUM 7.8 MG/DL

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LASTPAGE

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 0 0 0 0000
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 00000 0 0 00000

DX: BLUNT TRAUMA--CHI

RUSH LAB RESULTS

NORMAL RANGE

LACATE, BLD

LACTATE WB 1.3 MMOL/L

LASTPAGE

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 00000 0 0 00000

DX: BLUNT TRAUMA--CHI

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STAT LAB RESULTS

=====

**** S T A T **** S T A T ****

**** S T A T **** S T A T ****

=====

FLUID BAL

| NORMAL RANGE | | | |
|--------------|------------------|-----|--------|
| (133-155) | NA | 153 | MMOL/L |
| (4.1-5.8) | K | 3.2 | MMOL/L |
| (96-106) | CL | 120 | MMOL/L |
| (20-26) | CO2 | 25 | MMOL/L |
| (2-19) | BUN | 8 | MG/DL |
| (0.1-0.6) | CREATININE | 0.4 | MG/DL |
| (74-127) | GLUCOSE | 114 | MG/DL |

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LASTPAGE

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STAT LAB RESULTS

DX: BLUNT TRAUMA--CHI

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**** S T A T **** S T A T ****

**** S T A T **** S T A T ****

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LFTS

NORMAL RANGE

| | | | |
|-----------|------------|----------|-------|
| (0.6-1.4) | BILI TOTAL | 0.5 | MG/DL |
| (0.2-1.0) | BILI UNCON | NOT DONE | DL |
| | BILI CONJ | NOT DONE | DL |
| (2.6-3.6) | ALBUMIN | 3.0 | G/DL |
| (110-300) | ALK PHOS | 54 | U/L |
| (6-50) | ALT | 31 | U/L |
| (35-140) | AST | 102 | U/L |
| (34-263) | GGT | 19 | U/L |

=====

LASTPAGE

DEPARTMENT OF RADIOLOGY

Indications: LINE PLACEMENT
Diagnosis: SUBARACH HEM W OPN WOUND
History: HEAD INJURY, MVA

IMPRESSION:

A single portable view of the chest on at AM has been returned for dictation. Comparison is made to . Interval film is unavailable for comparison. An endotracheal tube is in satisfactory position. The tip of the nasogastric tube is in the descending duodendum. Tip of central line in the right atrium. There is a moderate right pleural effusion with atelectasis or infiltrate in the right upper lung fields. Portions of the lungs are obscured by overlying heating blanket. There is evidence of left lower lobe atelectasis. No definite evidence of pneumothorax is seen although artifact overlies the left midlung field. The abdomen is gasless. The tip of a right inguinal line overlies the L2-3 interspace. A temperature probe overlies the lower abdomen. There appears to be a posterior skull fracture on the upper edge of the film, although very little of the calvarium is visualized.

FINAL REPORT

INVESTIGATION REPORT

BEST AVAILABLE

| | | | | | | | | | |
|--|--|------------------------------------|--|------------------------------------|--|--------------------------------------|--|--------------|--|
| 1 STATION Somers Point Police Dept. | | | | 3 CODE | | 4 STATION CASE NUMBER | | | |
| 5 Crime Fatal Motor Vehicle Accident | | | | 7 NAME N/A | | 8 Victim 1 M 4 Months | | | |
| DATE AND TIME AT XX | | 12 HOUR | | 14B-WK 15 MO. 16 DAY 17 YR. | | 18 HOME ADDRESS - CITY - STATE PHONE | | | |
| 19 LOCATION | | | | 20 EMPLOYER - SCHOOL N/A | | BUSINESS PHONE N/A | | | |
| 21 MUNICIPALITY | | | | 22 COUNTY | | 24 PERSON REPORTING CRIME | | | |
| 23 TYPE OF PREMISES | | | | 25 WEAPONS - TOOLS | | 26 ADDRESS PHONE | | | |
| 31 HOW ATTACKED N/A | | | | | | | | | |
| 32 VEHICLE | | 33 YEAR | | 34 MAKE | | 35 BODY TYPE | | 36 COLOR | |
| 37 REG NUMBER & STATE | | 38 SERIAL NUMBER OR IDENTIFICATION | | | | | | | |
| VALUE STOLEN PROP. | | 40 TOTAL VALUE STOLEN | | 41 TOTAL VALUE RECOVERED | | 42 TELETYPE ALARM | | 43 WEATHER | |
| N/A | | N/A | | N/A | | N/A | | Clear | |
| 44 ACCUSED - LIST AND IDENTIFY ADDITIONAL VICTIM - DESCRIBE PERPETRATORS OR SUSPECTS - ACTION TAKEN INCLUDE FINDINGS AND OBSERVATIONS OF INVESTIGATOR - PHYSICAL EVIDENCE FOUND - WHERE - BY WHOM - DISPOSITION AND TECHNICAL SERVICES PERFORMED - INTERVIEW OF VICTIMS - WITNESSES - PERSONS CONTACTED - ACCUSED SUSPECTS - LIST - DESCRIBE STOLEN PROPERTY - VALUE - COURT ACTION - ATTACH STATEMENTS. | | | | | | | | | |
| <p>On the above listed date and time the undersigned was called to the above named incident location to investigate a motor vehicle accident that occurred there. Upon my arrival on the scene I was met and briefed by . I was informed that a infant passenger of one of the two vehicles involved in this accident had been injured, gone into respiratory distress, was treated by personnel and at the scene and had been transported by</p> <p>Observations at the accident scene: The undersigned observed a 1986 BMW White 2DR vehicle at final rest in the (NB) lane of Rt. 15.5' north of the NE corner of , angled in towards the shoulder of the (NB) lane. The operator of the 1986 BMW was a of sustained injuries to her forehead and had been transported by Ambulance to for treatment prior to the undersigned arrival at the accident scene.</p> <p>The undersigned observed the second vehicle involved in this accident, a 1995 Isuzu Trooper 4DR maroon in color a rest partially up on the curb and in the (SB) shoulder of Rt. adjacent to where the 1986 BMW was at rest. The driver of the Isuzu Trooper was . The above named victim was the front seat passenger of this vehicle. The victim was transported to along with the driver prior to the undersigned arrival on the scene.</p> <p>Due to the seriousness of this accident notified the - Fatal Accident Unit, and Inv. Barry Wythe responded to assist in the investigation.</p> <p>Investigation revealed that the 1986 BMW was traveling (NB) on Rt. . The 1995 Isuzu was traveling (SB) on Rt. when it crossed the double yellow center lines of the highway there, apparently to make a left hand turn onto (EB) and collided, at an angle, head-on with the 1986 BMW.</p> | | | | | | | | | |
| 45 TYPE NAME | | 46 SIGNATURE | | 47 PAGE 1 OF 4 PAGES | | 48 STATION | | | |
| Signature | | | | | | | | | |

CONTINUATION PAGE

| | | |
|-----------|--------|-----------------------|
| 1 STATION | 2 CODE | 3 STATION CASE NUMBER |
|-----------|--------|-----------------------|

The initial point of impact between the two vehicles took place in the (NB) lane of Rt. 15.5' north of the NE corner of and Rt. . All the debris that was created by the collision of the two vehicles was contained within the (NB) lane and shoulder of Rt. . After the initial impact the 1995 Isuzu moved in a westerly direction 32.5' away from the impact location coming to rest partially in the (SB) shoulder and up onto the curb facing an easterly direction. It should be noted that the weather was clear and the roadway at the accident location was dry.

The 1986 BMW had been towed from the accident scene by prior to the undersigned arrival on the scene. The undersigned made a visual inspection of the 1995 Isuzu and found that it had damage consistent with the type of accident it had just been involved in. The driver door was open and as I looked at the front compartment of the vehicle standing at the open driver door I observed that both the driver and passenger side air bags had deployed. There was a child safety seat which was lying on its back facing forward on the front passenger seat. The undersigned further observed that the passenger front seat seat belt was engaged, latch plate into buckle, but the child seat was not secured by the seat belt.

It is believed that the child car seat, a Manufacture date Manufactured by , was in the front passenger seat of the 1995 Isuzu with the victim seated in the child car seat. The child car seat was positioned in the front passenger seat facing the rear of the vehicle. It is believed that the child car seat was not properly secured to the passenger seat with the seat belt. It should be noted that both the 1995 Isuzu Owner's Manual & the Child Car Seat state that the child car seat should not be installed in the right front passenger seat in a rearward facing position when there is a passenger side air bag.

It is believed that upon initial impact the child car seat that the victim was seated in moved towards the front or dashboard area of the 1995 Isuzu and made contact with the hatch door area of the passenger side air bag. While in contact with the air bag door, the air bag deployed due to the impact between the two vehicles. As a result of the air bag deploying it is believed that the child car seat the victim was seated in was propelled towards the rear of the vehicle and upwards. The child car seat made contact with the head liner and door post that separates the passenger side front and rear doors. This is known as there is contact damage to the upper left portion of the child car seat and due to the fact that the plastic moulding that covers the post is broken. The moulding that is still in tact on the post has greenish cloth fibers matching those that are part of the cloth covering of the child car seat.

The 1995 Isuzu and 1986 BMW were both impounded as evidence and stored at . The child car seat that the victim was seated in was also retained as evidence and was marked and tagged as such. The undersigned also removed from the vehicle personal property, a Black Leather purse with its contents from the 1995 Isuzu, belonging to the victim's . The purse was brought back to where a was filed giving a description of the purse and a detailed inventory of its contents, see attached report.

While at the accident scene took sworn taped statements from two witnesses, and who observed this accident. The tapes of these statements were marked as evidence by and a copy of said tapes were made for the by him and are a part of this file. The aforementioned witnesses made themselves known to who was one of the initial responding officers to this accident. in turn gave the witnesses information to the undersigned for follow-up investigation.

| | | |
|-----------------|-------------------|-------------------|
| 57 TYPE NAME | 59 | 60 DATE OF REPORT |
| Signature _____ | PAGE 2 OF 4 PAGES | 51 STATION |

| | | |
|-----------|--------|-----------------------|
| 1 STATION | 1 CODE | 1 STATION CASE NUMBER |
|-----------|--------|-----------------------|

While at the accident scene the undersigned took measurements of same for the purpose of diagraming the scene at a later date.

The undersigned along with _____ went to _____ At the hospital _____ witnessed the collecting of blood samples from the driver of the 1986 BMW. Also collected at the hospital was a urine sample from _____ Both the blood kit containing the blood samples and the urine sample from _____ were brought back to _____ marked and tagged and evidence and stored until such time as they are transported to the _____ in _____ for analysis.

The undersigned along with _____ took sworn taped statements from the two drivers involved in this accident, _____ and _____ while at _____ Copies of theses taped statements were made by _____ and were made part of this file.

_____ the driver of 1995 ISUZU was treated for a injury to her left leg and _____ was treated for injuries she sustained to her forehead. Both drivers were treated and released.

The victim was treated at _____ on the date of this accident for injuries he sustained to his head as a result of this accident and was air lifted to _____

On this date the undersigned was contacted by _____ who advised me that he had just received word that the victim had been pronounced dead at _____ in _____

The undersigned contacted the following agencies to advise them of the victim's death: _____, see attached telex message.

_____ advised the undersigned that he received a call from _____ informed _____ that the corporation he works for is _____ accident _____ out of _____ and that _____ is interested in the causation of the accident and he has been assigned to investigate same.

The undersigned along with _____ met with _____ At this time the undersigned passed onto _____ information regarding the at scene investigation of the aforementioned accident which would assist _____ in his investigation.

| | | |
|-----------------|---------------------------------|-------------------|
| 17 TYPE NAME | 18 | 19 DATE OF REPORT |
| Signature _____ | PAGE <u>3</u> OF <u>4</u> PAGES | 21 STATION |

STATION

CODE

STATION CASE NUMBER

On this date the undersigned and interviewed and
both of the who made up the who responded to the
aforementioned accident and attended to the victim at the scene and enroute to
also interviewed who was the attending from
based out of

The aforementioned interviews were conducted by
primarily and the questions directed to the and personnel were regarding the
condition they found the victim to be in after the accident he was just involved in. These
were not taped interviews.

For more details of the at scene investigation of the aforementioned accident involving
the above named victim see the attached

BY TYPE NAME

30

DATE OF REPORT

PAGE 4 OF 4 PAGES

Signature

STATION

Police Agency

Case

Station

No.

100 Accident Description
(Order by vehicle by number)

| | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | NAME—ADDRESS OF OCCUPANTS IF DECEASED ALSO INCLUDE DATE & TIME OF BIRTH |
|---|----|----|----|----|----|----|----|----|----|----|----|---|
| A | | | | | | | | | | | | |
| B | | | | | | | | | | | | |
| C | | | | | | | | | | | | |
| D | | | | | | | | | | | | |
| E | | | | | | | | | | | | |

Veh. #1 came to rest at the initial point of impact in the (NB) lane of Rt. facing in a northerly direction but angled in towards the curb line on the eastside of Rt. All the debris from the collision between Vehs. #1 and #2 were contained within the (NB) lane and shoulder of Rt. It is believed that after the initial impact between Vehs. #1 and #2, Veh. #2 backed away from the impact location in a westerly direction across Rt. until it had a secondary point of impact with the curb on the westside of Rt.

Veh. #2 came to final rest facing in a easterly direction in the (SB) shoulder of Rt. with its right rear tire up and over the curb at the location indicated in the accident diagram.

The driver of vehicle #1 as a result of the initial impact sustained injuries to her forehead as it struck and partially went through the windshield in front of the steering wheel. The driver of Veh. #1 was treated at the scene by and subsequently transported to

Veh. #2 had a 4 month old male child in a child care seat (tote) in the right front passenger seat. Upon initial contact with Veh. #1 the car seat moved forward where it made contact with the hatch door on the dashboard area in front of the passenger seat where the passenger side air bag is located. Due to the initial impact the passenger side air bag of Veh. #2 deployed, striking the rear area of the child car seat and propelling same upwards and towards the rear of the vehicle. It should be noted that the child car seat was positioned facing the rear of Veh. #2 in the right front passenger seat. It is believed that the passenger front seat belt was not used properly to secure the child car seat as the belt was found to still be engaged when the interior of the vehicle was inspected directly following the accident by the undersigned. As a result of the child care seat being propelled upwards and towards the rear of Veh. #2 it is known that the left and top left of the seat struck the post which separates the right front and rear doors, breaking the plastic moulding that covers the post.

Sergeant

Officer's Signature

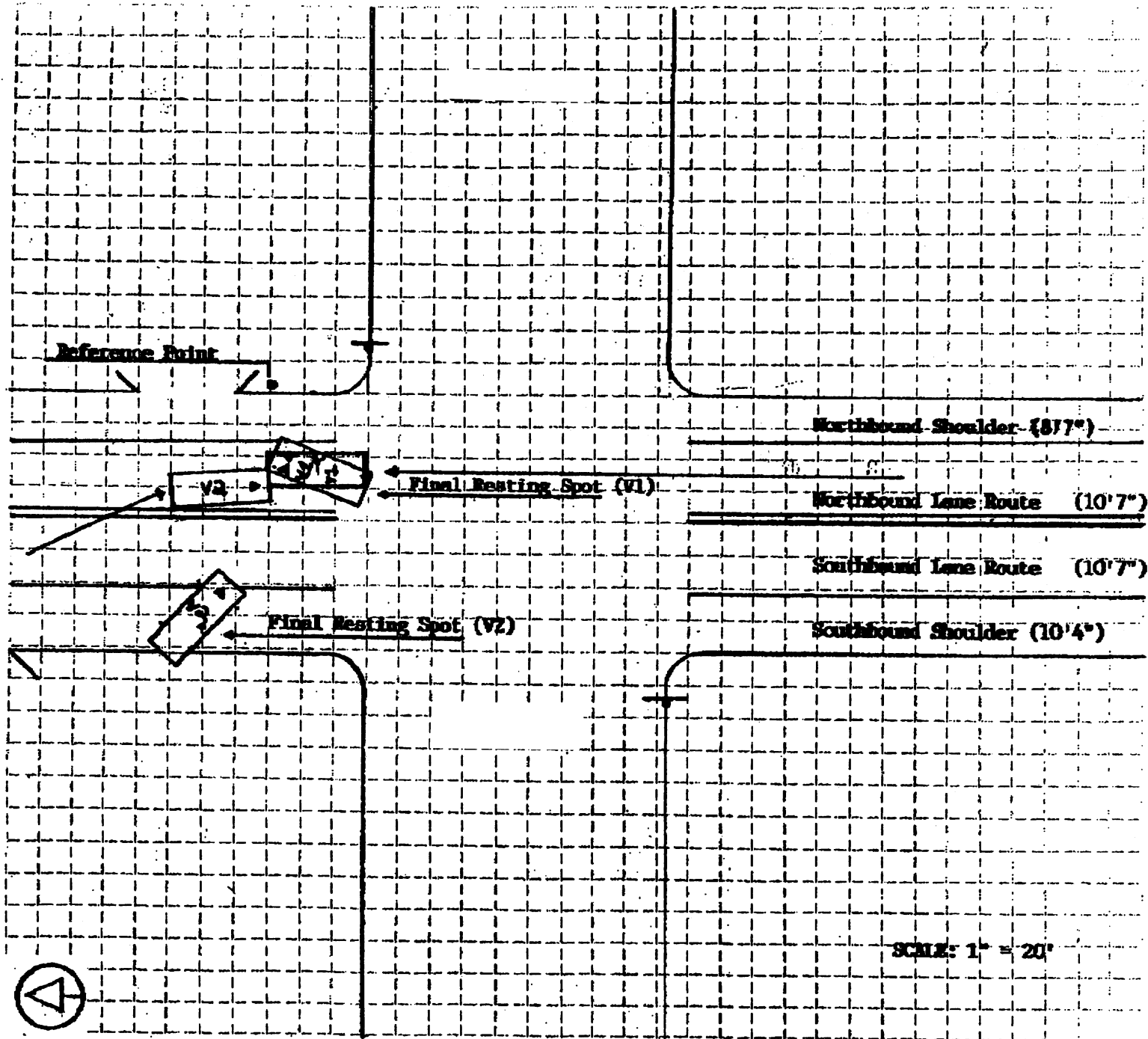
Badge Number

Police Agency

Case

Section Page 4 of 5

79 Show NORTH
BY ARROW



Officer's Signature

Badge Number

| 1 STATION | | 2 CODE | 3 STATION CASE NUMBER | | | |
|---|--|--------|-----------------------|--------|-------------------|-------|
| ACCIDENT DIAGRAM DISCRIPTION PAGE | | | | | | |
| ITEMS: | | | N | S | E | W |
| 1. (Reference Point) 15'5" North of NE curb line. | | | | | | |
| 2. Final Resting Spot RF/Tire (V1) | | | | 3'1" | | 8'8" |
| LF/Tire | | | | 1'9" | | 13'6" |
| RR/Tire | | | | 13'3" | | 14'4" |
| LR/Tire | | | | 10'10" | | 19'7" |
| 3. Final Resting Spot RF/Tire (V2) | | | 5'8" | | | 36'9" |
| LF/Tire | | | 11'7" | | | 32'8" |
| RR/Tire | | | 14' | | | 42'8" |
| LR/Tire | | | 17'8" | | | 38'7" |
| 4. POI 15'5" North of NE curb line (approximate). | | | | | | |
| 5. — Stop Sign | | | | | | |
| 6. Nothbound Shoulder of Route 8'7" | | | | | | |
| 7. Southbound Shoulder of Route 10'4" | | | | | | |
| 8. Northbound Travel Lane Route 10'7" | | | | | | |
| 9. Southbound Travel Lane Route 10'7" | | | | | | |
| 10. \ / Driveway(s) | | | | | | |
| 57 TYPE NAME | | | 58 | | 59 DATE OF REPORT | |
| PAGE 5 OF 5 PAGES | | | 60 STATION | | | |

| PEDESTRIAN MANEUVER | | TRAFFIC CONTROLS | | ROAD SYSTEM | | ROAD CHARACTER | | ROAD SURFACE TYPE | | SURFACE CONDITION | | WEATHER | | OVERSIZE/OVERWEIGHT PERMIT? | | VEHICLE TYPE | | CARGO BODY TYPE | | ROAD DIVIDED BY | | IS ROAD UNDER CONSTRUCTION? | | WHICH VEHICLE OCCUPIED? | | POSITION IN/ON VEHICLE | | VICTIM'S PHYSICAL COND. | | EJECTION FROM VEHICLE | | AGE | | SEX | | AVAIL | | USED | | AMBULANCE RUN NUMBER | | TOTAL NUMBER OF VEHICLES INVOLVED IN ACCIDENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 01 Crossing/Entering Roadway at Intersection | 02 Crossing/Entering Roadway Not at Intersection | 03 Walking on Road w/Traffic | 04 Walking on Road Against Traffic | 05 Playing in Road | 06 Standing in Road | 01 Police Officer | 02 R.R. Watchman, Gates, Etc. | 03 Traffic Signal | 04 Lane Markings | 05 Channelization-Painted | 06 Channelization-Physical | 07 Warning Signal | 08 Stop Sign | 09 Yield Sign | 10 Flagman | 11 No Control Present | 12 Other | 1 Interstate | 2 State Highway | 3 State/Interstate Authority | 4 State Park or Inst. | 5 County | 6 Co. Auth. Park or Institution | 7 Municipal | 8 Private Property | 9 U.S. Government Property | 1 Straight and Level | 2 Straight and Grade | 3 Straight at Hillcrest | 4 Curve and Level | 5 Curve and Grade | 6 Curve and Hillcrest | 1 Concrete | 2 Blacktop | 3 Gravel | 4 Steel Grid | 5 Dirt | 6 Other | 1 Dry | 2 Wet | 3 Snowy | 4 Icy | 5 Other | 1 Clear | 2 Rain | 3 Snow | 4 Fog | 5 Other | 1 Yes | 2 No | 01 Passenger Car/Station Wagon/Unknown | 02 Pass. Car w/Trailer | 03 Recreation Vehicle | 04 Tumbler/Limo. | 05 Motorcycle | 06 Moped | 07 Pickup/Scout Utility | 08 Van/Box Van | 09 Fire/Rescue Vehicle | 10 Police Vehicle | 11 Ambulance | 12 Bus | 13 School Bus | 14 Single Unit Truck (2 axles) | 15 Single Unit Truck (3 axles) | 16 Truck/Tractor | 17 Truck/Tractor (Bobcat) | 18 Tractor/Semi-Tractor | 19 Tractor/Dozer | 20 Tractor/Triples | 21 Heavy Truck-Other | 22 Other | 01 Head | 02 Face | 03 Eye | 04 Neck | 05 Chest | 06 Back | 07 Shoulder-Upper Arm | 08 Elbow/Lower Arm/Hand | 09 Abdomen/Pelvis | 10 Hip-Upper Leg | 11 Knee/Lower Leg/Foot | 12 Entire Body | 01 None Used | 02 Lap Belt | 03 Harness | 04 Lap Belt & Harness | 05 Child Restraint | 06 Helmet | 07 Passive Restraint | 08 Airbag | 09 Airbag & Seat Belts | 10 Other | 01 Overturn (Rollover) | 02 Fire/Explosion | 03 Immersion | 04 Jackknife | 05 Ran Off Road | 06 Downhill Runaway | 07 Cargo Loss or Shift | 08 Separation of Units | 09 Other Non-Collision | 10 Pedalcycle | 11 Pedestrian | 12 Railway Train | 13 Animal | 14 MV in Transport | 15 MV in Transport, Other Roadway | 16 Parked MV | 17 Other Object (Non-Fixed) | 18 Impact Attenuator | 19 Bridge/Pier/Abutment | 20 Bridge Parapet End | 21 Bridge Rail | 22 Guide Rail | 23 Median Barrier | 24 Traffic Sign Post | 25 Overhead Sign Support | 26 Light Standard | 27 Utility Pole | 28 Other Post | 29 Culvert | 30 Curb | 31 Ditch | 32 Embankment | 33 Fence | 34 Tree | 35 Other Fixed Object | 36 Unknown | 1 Same Direction -Rear End | 2 Same Direction -Sideswipe | 3 Angle | 4 Head-On | 5 Left Turn | 6 Struck Parked Vehicle | 7 Other |
| APPARENT CONTRIBUTING CIRCUMSTANCES (Human, Vehicle, Environmental Factors) | | NUMBER OF AXLES | | DIRECTION OF TRAVEL | | LIGHT CONDITION | | PHYSICAL STATUS | | PRE-ACCIDENT VEHICLE ACTION | | SEQUENCE OF EVENTS (Select up to 4 for each vehicle) | | COLLISION TYPE (w/Other MV) | | TOTAL NUMBER OF VEHICLES INVOLVED IN ACCIDENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01 Unsafe Speed 02 Driver Inattention 03 Failed to Obey Traffic Control Device 04 Failed to Yield Right of Way to Vehicle/Pedestrian 05 Improper Lane Change 06 Improper Passing 07 Improper Use of Turn Signals/Failure to Signal 08 Improper Turning 09 Following Too Closely 10 Backing Unsafely 11 Dazzling, Improper, or No Lights 12 Wrong Way, One Way Road 13 Improper Parking 14 Pedestrian's/Bicyclist's Actions 15 Vehicle Defect 16 Animal's Action 17 Defective Shoulder 18 View/Obstruction/Limited 19 Water Puddles 20 Obstruction/Debris on Road 21 Improper/Inadequate Lane Marking 22 Other Roadway Defects | | 23 Traffic Control Device Defective/Missing 24 Failure to Keep Right 25 None 26 Other | | N 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | | 1 Daylight 2 Dawn or Dusk 3 Dark (St. Lights On) 4 Dark (St. Lights Off) 5 Dark (No St. Lights) | | 1 Apparently Normal 2 Had Been Drinking 3 Physical Handicaps 4 Illness 5 Fatigued 6 Apparently Asleep 7 Using Drugs 8 Other | | 01 Going Straight Ahead 02 Making Right Turn 03 Making Left Turn 04 Making U Turn 05 Starting from Parking 06 Starting in Traffic 07 Slowing or Stopping 08 Stopped in Traffic 09 Parking 10 Parked 11 Changing Lanes 12 Merging 13 Backing 14 Driverless/Moving 15 Other | | 01 Overturn (Rollover) 02 Fire/Explosion 03 Immersion 04 Jackknife 05 Ran Off Road 06 Downhill Runaway 07 Cargo Loss or Shift 08 Separation of Units 09 Other Non-Collision 10 Pedalcycle 11 Pedestrian 12 Railway Train 13 Animal 14 MV in Transport 15 MV in Transport, Other Roadway 16 Parked MV 17 Other Object (Non-Fixed) 18 Impact Attenuator 19 Bridge/Pier/Abutment 20 Bridge Parapet End 21 Bridge Rail 22 Guide Rail 23 Median Barrier 24 Traffic Sign Post 25 Overhead Sign Support 26 Light Standard 27 Utility Pole 28 Other Post 29 Culvert 30 Curb 31 Ditch 32 Embankment 33 Fence 34 Tree 35 Other Fixed Object 36 Unknown | | 1 Same Direction -Rear End 2 Same Direction -Sideswipe 3 Angle 4 Head-On 5 Left Turn 6 Struck Parked Vehicle 7 Other | | 122 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |